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Refining Technology Edition

NATIONAL PETROLEUM NEWS

AUGUST 9, 1939

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NEW "RPM" DELO which prevents ring-sticking and reduces filter-clogging to a remarkable degree, positively will not corrode or impair ANY type of Diesel engine bearings.

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STANDARD OIL COMPANY OF CALIFORNIA

Sidney A. Swensrud . . .
who came to the Standard of Ohio in 1928 as assistant to President Holliday, and has lately been head of its supply and transportation department, Aug. 1 was elected a vice president. His department will continue to cover procurement of crude and other supplies, construction and operation of crude and gasoline pipelines; co-ordination of refinery output with sales requirements and movement of refined products to distributing points.

George W. Hanneken . . .
of Cleveland, manager of the manufacturing department of the Standard Oil Co. of Ohio, Aug. 1 was elected a vice president, and will have general charge of Sohio's refining facilities. He has been with the company since 1917.

(For more details see article on page 18)

National Petroleum News

VOLUME 31 WEDNESDAY, AUGUST 9, 1939 NUMBER 32

New Oil Probe May Look Into Sales Methods

N. P. N. News Bureau

WASHINGTON, Aug. 7.—Much wider scope for the Cole Oil Sub-Committee's coming investigation of the oil industry, than in its 1934 investigation, is indicated in the resolution passed by Congress shortly before it adjourned, authorizing the investigation.

The investigation was suggested by President Roosevelt as preliminary to the consideration by Congress at its next session, of the oil conservation bill which was drafted by the Interior Department at the President's recommendation and introduced in Congress July 26 by Rep. Cole of Maryland. His committee made the study of the oil industry in 1934 upon authorization of Congress.

While the recent authorizing resolution virtually repeats the wording of the resolution by Congress which launched the previous investigation, one important paragraph has been added, namely:

> "To investigate methods and practices employed in the production, transportation and distribution of petroleum and its products, for the purpose of determining whether such methods and practices, in or in relation to interstate commerce in petroleum and its products, constitute unfair methods and practices from the standpoint of their effect upon producers and consumers."

This section, it is believed here, goes far beyond the scope of a study necessary for a consideration of the oil production control bill as introduced in Congress, and provides authority for an investigation of marketing practices as well as any other of the oil industry, from the standpoint of their effect upon the consumer.

The Cole committee, which is a sub-committee of the House Interstate Commerce Committee, will begin its investigation

(Continued on Page 10)

Gold Service Pins To 1360 in '39

CHICAGO—Standard Oil Co. of Indiana will present gold pins to 1360 employes during 1939, recognizing 20,000 man-years of service by these employes with the company.

Twenty-two will be awarded pins for 40 years service each, 71 employes for 30 years, 427 for 20 years service and 840 employes for 10 years of service.

Indict Three In Louisiana Oil Scandal

N. P. N. News Bureau

NEW ORLEANS, La., Aug. 8.—A federal grand jury Aug. 7 indicted Louisiana's former Governor Richard W. Leche, Seymour Weiss, Freeman W. Burford, president of the East Texas Refining Co. of Longview and the company for alleged conspiracy to violate the Connally "Hot" Oil Act and for conspiracy to defraud the U. S. "by impairing, obstructing and defrauding the lawful functions" of the Interior Department, which administers the Connally law.

The indictment charges that in March, 1936, the then Governor-elect Leche, Weiss, Burford and others met at New Orleans to plan for stepping up production from 13 wells in the Rodessa field from 5000 to 20,000 barrels daily. This oil was then to be shipped by pipeline from the field to Longview, according to the indictment and eventually exported to Italy and other foreign ports.

Approximately 48,000 barrels of the Rodessa oil actually moved in this manner before a federal district court in Texas issued an injunction against its movement, the indictment charges.

The indictment alleges Burford paid Weiss $48,592.66, figured on 10 cents for each barrel of oil run, and later paid an additional sum to Weiss after the pipeline from the Rodessa field

(Continued on Page 10)

Urge ICC to Regulate Oil's Private Trucks

Oil Companies Among Largest Users of Privately-Owned Trucks, Which Would Be Supervised "In Interests of Safety"

N. P. N. News Bureau

WASHINGTON, Aug. 7.—That the Interstate Commerce Commission prescribe regulations for privately-owned motor trucks operated in interstate commerce, under the federal Motor Carrier Act, has been recommended to the ICC by one of its examiners.

The regulations as recommended would include the qualifications and working hours of drivers and set standards for equipment, which would include, for example, lighting and identification features, all in the alleged interest of safety in operation.

The only exception among industries would be trucks owned and operated by farmers, which would be granted special exemptions as to age of drivers, drivers' hours and other operating conditions.

All that is needed to make the examiner's recommendations become in effect law is for the Interstate Commerce Commission to draw up the necessary regulations.

While the proposed regulations would apply only to trucks operated in interstate commerce, every oil marketing company whose trucks crossed a state line in the course of their delivery operations would come under them.

The purpose of the ICC in making the proposed recommendations public is to give the affected carriers — oil and all other industries—an opportunity to make their protests against the federal regulation of their own trucks direct to the commission.

It is thought now that the ICC will set a date for hearings early in the fall, at which it will consider the protests entered and rule on whether the examiner's recommendations should be finally adopted.

Large Owners of Trucks

The oil companies are among the largest operators of owned trucks, which would come under close federal regulation as to type of equipment and fittings used, hours of drivers and so on, were the Interstate Commerce Commission to adopt this examiner's recommendation.

The large oil companies own and operate over 90,000 trucks, in over 1300 fleets, according to a recent report of the Automobile Manufacturers Assn. and independent oil marketers own and operate another 75,000 trucks.

Standard Oil Co. of New Jersey, for example, owns and operates 12,000 trucks and 4000 passenger cars. It has the second largest fleet of motor vehicles in the country, ranking second only to the Bell telephone companies as a group.

Record For Safety

The oil industry has established a remarkable record for the safety in operations of its motor trucks, even when it is considered it is largely transporting flammable liquids. Its working hours for drivers are shorter than those in many industries.

The Interstate Commerce Commission examiner who has recommended that the ICC prescribe regulations for privately-owned trucks is R. W. Snow, who presided at various hearings held over the country last fall and winter, as provided by the Motor Carrier Act. Representatives of companies and those of other industries at these hearings protested making the ICC regulations apply to privately-owned motor vehicles.

Examiner Snow's report to the ICC contains 20 "findings of fact," supporting his conclusion that the federal agency in charge of transportation, which now regulates common and con-

(Continued on page 16)

New Oil Probe May Look Into Sales Methods

(*Continued from page* 9)

with a week's hearings in Washington shortly after Oct. 1, and will then probably visit Illinois and Louisiana fields before the next session of Congress convenes in January, Chairman Cole told NATIONAL PETROLEUM NEWS today.

Following meetings of the full Interstate Commerce Committee and the Cole subcommittee, Cole said that he himself may visit the Illinois fields on a trip to the Pacific Coast which he is starting this week. He said that other members of the subcommittee will make individual inquiries to familiarize themselves with present conditions in the oil industry before the hearings begin in October.

The resolutions authorizing the investigation (and setting aside $15,000 for its conduct) also authorized the Cole subcommittee to utilize technical and investigative services of government departments in its probe, and it is expected that oil industry experts from the Geological Survey, Bureau of Mines, Petroleum Conservation Division and other similar government units will be used as well as investigators from the Department of Justice.

Similar technical and investigative aid was used by the committee in its 1934 investigation.

$15,000 Is Voted

The money for the investigation presented something of a problem this year. In the first place, Chairman Cole indicated he thought $10,000 would be adequate, since the committee's hearings in California, Oklahoma and Texas in 1934 would be available and practically "up to date." However, at a meeting of the Interstate Commerce Committee it was decided to ask for $25,000 (at the urging of the White House or Interior Department, it is said), and so the bill was put in for this figure.

Chairman Lindsay Warren, North Carolina, said there was not enough money in the House Contingent Fund out of which expenses of such investigations are paid, and suggested the amount be trimmed to $15,000. He suggested that this sum be added to the Third Deficiency Appropriation bill, to pay for the probe. It was, and thus the committee has $15,000 for its work. This will be ample, it is thought.

The committee used less than $20,000 of the $25,000 allotted to it for the 1934 investigation, but in the 1939-40 probe it is not proposed to visit all the fields covered in the last investigation.

It is felt that, if the committee visits Illinois and Louisiana it will have seen two of the "sorest" spots as regards crude production.

The Oil Subcommittee of 1939 is identical, with one exception, with the committee which held its extensive investigation in 1934. The exception is Rep. Pearson, Tennessee, who was appointed to take the place of former Rep. Sam Pettengill, Indiana, who wrote the book "Hot Oil" after his experiences in the earlier probe. Pettengill retired from Congress.

The other members include Chairman Cole, Rep. Wolverton, New Jersey; Rep. Kelly, Illinois; and Rep. Mapes, Michigan.

Driver Liable In Inflation Injury From Faulty Tire

WASHINGTON, Aug. 7.—A motorist who permits a service station employe to perform a gratuitous service for him—such as inflating tires—knowing the condition of his vehicle is such that the employe may be injured in performing the service, is liable for damages if an injury should occur.

This, in effect, is the sense of a decision recently rendered by the North Carolina Supreme Court in *Stroud v. Southern Oil Transportation Co.* James Stroud, a service station attendant, sought damages for the loss of two fingers and injury to both hands, sustained when the rim flange of a tire he was inflating for one of the transportation company's trucks flew off, mashing his hands.

The trial court held that the evidence in the case was insufficient for presentation to the jury and rendered a nonsuit judgment. On appeal, the N. C. Supreme Court held that the defendant "owed to this plaintiff the duty of refraining from subjecting him without warning to danger from a condition which was known to it, or could have been known by the exercise of due care." The court quoted from a previous decision which held "there is a general duty owing to others of not injuring them by any agency set in motion by one's act or omission."

The record in the trial court showed that the tire being inflated, the inside tire of a dual-wheel arrangement, had been run in a partially deflated condition for 18 or 20 miles, that the inside and outside wheels were so mounted that the holes between the spokes were not in line, and that the inside tire was fitted with a shorter valve stem than is usual for such tires. The appellate court held that these factors should have been taken into consideration by the truck operator in permitting Stroud to undertake the inflation. It was indicated, though not expressly testified, that bumps in the road might have caused the rim flange to work loose on the wheel carrying the partially deflated tire.

BULLETINS

Amoco Answers FTC Complaint

WASHINGTON, Aug. 8.—American Oil Co. has not been selling its branded gasolines on a commercial consumer contract to General Finance Inc. for resale to the general public since it learned of such resale, the company asserted in its answer to the Federal Trade Commission's complaint of violation of the Robinson-Patman law against discrimination in prices.

The company said that when it learned that General Finance was selling its branded gasolines to the general public, it stipulated that the commercial consumer price should apply only to gasoline resold to taxicabs the General Finance Co. controls.

General Finance has not yet filed its answer, having been granted an informal extension of time until later this week.

* * *

U. S. Crude Output at Record High

NEW YORK, Aug. 8.—Crude oil production in the U. S. averaged 3,909,400 barrels daily in the week ended Aug. 5, up 370,800 barrels from the previous week and 164,400 barrels above the last previous high daily output of 3,745,000 barrels which was reached in the week ended Aug. 28, 1937, the current report of the American Petroleum Institute shows. Texas alone had an increase of 383,800 barrels in daily average output last week.

* * *

Rail Shippers Protest C F A Rate Cut

TULSA, Aug. 8.—Petroleum Rail Shippers Ass'n. has filed with Interstate Commerce Commission a protest of the approximate 31 per cent reduction in petroleum rail rates within the Central Freight Ass'n. (central eastern U. S.) territory effective Aug. 20. It asks:

1. That the ICC require the rails to recognize all characters of competition—including pipeline transportation—in establishing rates within the CFA territory; 2, that the reduction scheduled for Aug. 20 be held in abeyance pending definite action of a wider proposal (SWFB 17613) for reduced rates from the southwest into CFA territory.

Leasing of Drainage Districts Authorized

CHICAGO, Aug. 7. — Leasing of land for oil and gas drilling by commissioners of drainage districts in Illinois was authorized last week when House Bill 687 became law without the governor's signature. The law validates all previous leases executed by commissioiners, and grants commissioners the right to pool drainage districts with adjacent land for unit drilling.

Indict Three In Louisiana

(*Continued from page* 9)

to Longview had been sold. Weiss, in turn, is alleged to have given Leche 67 $1000 bills in November of 1936 as "his share of the illicit gains and profits."

The indictment mentions Robert W. Maestri, who was state conservation commissioner during the time of the conspiracy, as having been fraudulently misled by the conspirators into authorizing the order increasing allowable production of the Rodessa wells. Maestri was not indicted. Four persons named as co-conspirators in the indictment, but not indicted, were Martin Winfrey, Dallas attorney; A. C. Glassell, president of the Pelican Co.; Dillard Estes and J. A. Shaw of the Louisiana Conservation Department.

Can. Province Orders "Gas" Cut Three Cts.

CLEVELAND, Aug. 7.—A price fixing order which calls for a cut of three cents in gasoline tank wagon prices, and sets dealer margins at five and six cents a gallon, has been ordered effective Aug. 7 by the British Columbia (Canada) Coal and Petroleum Control Board, under its Coal and Petroleum Control Act.

The three-cent cut will apply throughout the province. The board has also specified a spread of 5 cents a gallon on the lower mainland and 6 cents in the interior, between tank wagon and service station prices. Inasmuch as these spreads had generally existed, the effect of the order will be to reduce service station prices by three cents, it is said.

For example, under the price fixing order, prices to undivided dealers in Vancouver will be 19 cents per Imperial gallon, with service station prices 24 cents per gallon, including about 0.75 cent sales tax and 7-cent road taxes. Vancouver prices now are 22 cents and 27 cents, including taxes.

It was reported that Imperial Oil Ltd., principal marketer in the province, will seek an injunction to stay execution of the order, which is the second attempt of the British Columbian government to invoke gasoline prices fixing, pending an appeal to the Supreme Court of Canada.

First Order in October

The first price fixing order, which also called for a cut of three cents in gasoline prices, was issued last October. It was enjoined by Imperial on the grounds that it exceeded the authority of the provincial government and affected inter-territorial trade.

The first order was then rescinded and, when the case came before the court, the only point at issue was the validity of the Coal and Petroleum Control Act. The fight against the act revolved around the McDonald report, which covered the entire oil industry from the well to the automobile, and was the basis for orders issued by the board under the Control Act. The company contended this report deals with inter-provincial and international trade, matters subject only to federal jurisdiction.

The British Columbia Supreme Court ruled in favor of the oil company, but the decision was reversed when the provincial board took it to the appellate court, after which the order effective Aug. 7 was issued.

Course in "Bottled" Gas

LOS ANGELES, Aug. 8.—A special course on butane, covering the planning and servicing of butane installations, will be offered at the University of California Extension Division, Los Angeles, beginning Sept. 21. Albert G. Bodine, American Liquid Gas Corp., will be the instructor.

There will also be mechanic art classes in automotive problems, motor tune-up, petroleum technology, oil production engineering, geology, and other sciences and commercial subjects.

Use of Aviation "Gas" Doubles in 5 Years

WASHINGTON, Aug. 7.—Consumption of gasoline in civil and government aircraft has nearly doubled in the past five years, with a combined consumption of 100,448,373 gallons reported in 1938, compared with 57,023,426 in 1933, Civil Aeronautics Administration reports.

Civil aircraft accounted for 55,511,245 gallons of the 1938 total, 44,937,128 gallons being consumed in government planes.

Consumption of lubricating oil in civil planes, however, was less in 1938 than in 1933, 1,117,745 gallons being consumed last year, compared with 1,293,092 gallons in 1933. Consumption in government planes, however increased from 706,367 in 1933 to 1,273,654 gallons in 1938.

W. Va. Marketers To Discuss Taxes

CHARLESTON, W. Va., Aug. 7.—Tax and legislative problems affecting the oil industry and its customers will be the principal topic of discussion at the second annual convention of the West Virginia Petroleum Assn., in Charleston Oct. 25, according to Edwin F. Patrick, secretary.

Speakers include T. H. Taylor, Socony-Vacuum Oil Co., Inc., New York, president of the Petroleum Industry Exhibit, Inc., at the New York World's Fair; Grady H. Forgy, American Petroleum Industries Committee, New York; Chester H. Gray, director, National Highway Users Conference, Washington; and Warren C. Platt, editor and publisher NATIONAL PETROLEUM NEWS, Cleveland.

The association is hopeful of reducing the taxes paid by the state's motorists, pointing out that the average motor vehicle operator in the state now works 13 days every year merely to pay his automotive taxes.

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NPN's Log ON OIL LEGISLATION

Summarized oil legislative information below is based on reports received at Cleveland from Washington and state legislatures, which are deemed reliable although NATIONAL PETROLEUM NEWS assumes no responsibility for accuracy or completeness of this information.

Final Reports

South Carolina

(Legislature convened Jan. 10, adjourned July 1)

Bills Enacted

HB-339. From proceeds of sale of bonds, Highway Department is authorized and directed to pay state treasurer $1,546,000 to be used for current expenses of state. Department is further authorized to pay from its current revenues gasoline tax and motor vehicle license tax, $454,000 to state treasurer to be used for general expenses of state and is authorized to increase its bonded indebtedness to $62,300,000. Approved July 1, 1939.

HB-190. Requests State Highway Department and Chief Highway Commissioner to permit a 30 per cent overload allowance until legislature shall have an opportunity to consider the matter. Approved February 15, 1939.

HB-501. Provides for compulsory inspection of motor vehicles by the State Highway Department. Approved June 16, 1939.

HB-1089. Provides that surplus from the portion of 1 cent gasoline tax going to Oconee County for year 1939 shall be placed in a special road improvement fund to purchase a rock crusher to repair county roads. Approved June 16, 1939.

HB-294. Prohibits persons engaged in selling wholesale and retail from selling at a lower price retail than wholesale. Approved June 15, 1939.

HB-374. Provides that wholesalers delivering goods to retailers in city shall not be charged a business license unless wholesaler maintains a warehouse or mercantile establishment for distribution in city. Approved March 31, 1939.

SB-497. Provides for an increase in fees for trucks up to 1½ ton load capacity and a reduction thereafter up to a load capacity of 5 tons. Fees for trucks having a load capacity over 5 tons unchanged. Approved July 1, 1939.

SB-872. Provides that 1 cent of gasoline tax accruing to Cherokee County may be used for matching W. P. A. funds for public works. Approved June 16, 1939.

Bills Which Did Not Pass

HB-64. To provide that every licensed gasoline dealer shall be allowed a deduction of 2 per cent of amount due each month to cover cost to him of collecting gasoline tax.

HB-442. To provide for a refund of 5 cents per gallon on all gasoline used in school buses.

HB-477. To provide for refund of state gasoline tax on gasoline used in the operation of automobiles, trucks, tractors and other machinery owned by counties for constructing and maintaining roads in counties.

HB-1273. To impose on each tank car load or tank truck load of gasoline, combination thereof or substitute therefor, consigned and shipped into state to a resident oil company, a tax of 2 cents on each such tank car load or tank truck load. Tax would not apply to shipments by barge or vessels into ports of state and would be paid by carrier.

HB-329. To divert all highway revenues to state general fund and to provide money for highway construction and for sale of bonds for such construction.

HB-521. To provide that all funds arising from taxes on gasoline and license fees on motor vehicles shall be placed in the general fund and devoted to such purposes as are directed in annual appropriation act after providing for payment of highway bonds.

HB-936. To provide that all motor vehicle license fees and all motor transportation fees collected after July 1, 1939 shall be held as general funds of the state.

HB-376. To levy a tax on chain stores based on number of stores included under same general management, supervision, ownership or control, whether operated in state or not. Gasoline filling stations selling or storing petroleum products only are exempt.

HB-73. To provide that the counties shall receive another cent of the gasoline tax for roads.

HB-448. To provide for a state system of secondary highways and the taking over of county roads. One cent of the gasoline tax now allocated to the counties would be paid to the state for secondary roads. Would impose additional taxes on motor vehicles and trucks.

HB-452. To reduce fees on common and contract carrier trucks.

HB-475. To provide for proof of financial responsibility, supervision, or revocation of operator's license.

HB-71. To authorize the State Highway Commission to add 1000 miles of additional roads during the years 1939 and 1940.

H. C. R.-602. A resolution that a committee be appointed to make a thorough investigation of the harmful practices of the petroleum industry in the sale and distribution of its products in South Carolina.

HB-1200. To provide for the licensing of wholesalers and retailers. Fee $2 for each store, shop, or place owned or operated by a retailer or wholesaler. Creates a Public Relations Commission to administer the act.

SB-354. To repeal law limiting gasoline supply tanks on motor vehicles to 30 gallons.

SB-859. To provide that all trucks carrying over 100 gallons of gasoline shall come to a complete stop before crossing railroad tracks.

Bill Calls For Posting Net Selling Price

MADISON, Wis., Aug. 7. — A bill to require service stations to post the net selling price of gasoline on the pumps has passed the Wisconsin legislature and this week awaits the governor's action.

The bill would require the posting in figures at least one-inch high, and a price posted would have to remain in effect for 24 hours. Wisconsin has a price posting order from the Department of Markets, but this bill specifies posting the net price, and selling at that price.

The price would have to be posted on the pump from which delivery is made direct to the vehicle tank, but the bill does not prohibit price signs in other parts of the station lot or building.

The measure was sponsored by the Retail Gasoline Dealers of Milwaukee.

Oil's WASHINGTON CALENDAR . .

Below are given the dates and notices of hearings, proceedings, new legislation, etc., which are of importance to oil companies. Notice is also given of regulations issued, interpretations of laws, new publications, etc., with information as to how readers may secure official copies of these.

HEARINGS:

Labor Department

Aug. 18—By Childrens Bureau in investigation to determine if motor vehicle operating and "jumping" are "hazardous" occupations for minors under Wage-Hour law. At Labor Department building in Washington.

Interstate Commerce Commission

Sept. 27.—(Chicago) On complaint of Globe Oil & Refining Co., that rail rates on petroleum products from its Lemont, Ill., refinery to Indiana and Michigan points are discriminatory.

Oct. 3—(Portland, Ore.) On suspended rail rate reduction on petroleum products from Portland and Seattle to Washington inland points.

Oct. 9—(Beaumont, Texas) On complaint of Beaumont Port Authority that rates on petroleum products and other commodities from inland points to Beaumont are discriminatory.

Interior Department

Sept. 20—In the matter of establishing minimum prices for Lance Creek, Wyo., crude oil. Interior Building, Washington.

LEASE AUCTION

Interior Department

Sept 18—(Great Falls, Mont.) On 120 acres public land in Cat Creek Field, Mont.

REPORTS AVAILABLE:

"Fire prevention and Fire Fighting in Motor Truck Transportation," a handbook for drivers, obtainable from American Trucking Assns., 1013 Sixteenth St., Washington. Price 10 cents per copy.

Wis. Dealers In Convention

MILWAUKEE, Aug. 7.—Presentation of committee reports will take up most of the meeting of the seventh annual convention of the Retail Gasoline Dealers Assn. of Wisconsin this week in Fond du Lac.

Formal addresses are on the program for the closing afternoon session and the banquet.

The convention opens Aug. 8 with an open forum discussion of retailers' problems, led by John E. Bunce of Milwaukee, president of the Milwaukee association, followed by a directors' meeting.

On the first afternoon there will be reports by the committee on audit, budget, convention, credentials, discount, entertainment, finance, identification, legislative, marketing, membership, nominating, and publicity.

Another open forum discussion will be conducted the second morning. O. V. Hanson of Milwaukee, president of the state association, will speak the second afternoon on "The Petroleum Marketing Structure". Robert E. Lee, Milwaukee retailer, will speak on "Better Legislation Through Organization," and Charles Low, of Bowes Seal-Fast Corp., on "Merchandising Sense."

Speakers at the banquet will be Sam Trainor of Wausau, president of the Wisconsin Petroleum Assn.; M. G. Peeters of Milwaukee, vice-president of the Wadhams Oil Co.; M. E. Holland of Racine, vice-president of the National Assn. of Petroleum Retailers; H. A. Inness-Brown of New York, publisher of The Gasoline Retailer.

N. Carolina Jobbers' Meeting is a Success

WILMINGTON, N. C., Aug. 7.—The one-day meeting Aug. 5 of the North Carolina Oil Jobbers Assn. was well attended, with a jobber from every section of the state present, according to Frances Johnson of Raleigh, secretary-treasurer. The meeting was at Wrightsville Beach, near Wilmington.

Paul Hadlick, secretary of the National Oil Marketers Assn., talked on the desirability of a strong state and national organization for the promotion and protection of the oil industry.

The Carolina association's stand against diversion of highway funds in the state was stressed at the meeting.

J. H. Parker, president of Coastal Oil Co., New Bern, is president of the association.

More Commend Oklahoma City Neighbors, Inc.

CLEVELAND, Aug. 7.—More jobbers and dealers have commended the plan of Oklahoma City marketers of taking their plea for fair gasoline prices direct to the public, as outlined in a story carried in the July 19 issue of NATIONAL PETROLEUM NEWS.

More than 100 Oklahoma City jobbers and dealers formed Neighbors, Inc., a non-profit organization, to campaign for public support of fair motor fuel prices. The plan aimed at educating the public to the disastrous effects of cut prices, not only to the station operator, but to the community as a whole.

Educating the public is the most important job before the industry today, commented **W. B. Wylie,** of Los Angeles, executive secretary of the Petroleum Dealers Ass'n. of California, in commending the plan of the jobbers and dealers of Oklahoma City.

M. B. Whiting of Clifton Forge, Va., Whiting Oil Co., and twice president of the National Oil Marketers Ass'n., termed the Oklahoma City program a "cherished idea of many legitimate marketers" which they felt could have been initiated some years ago.

"If the majority of the dealers will wholeheartedly co-operate in this plan, forgetting that minority which will not co-operate with any plan, it can be worked out to the very great satisfaction of all marketers who are desirous of giving the public value received for the money spent with them and at the same time paying their employes a living salary and one that will cause their employes to live with respect to themselves and their neighbors," stated Mr. Whiting.

He cited commercial consumer discounting by supplying companies as another evil which is causing difficulty for the jobber and the dealer to operate on a "live and let live basis."

"I think there is a great deal of merit in the plan," said **J. F. Wilson,** of Port Huron, Mich., The Star Oil Co. and president of the Michigan Petroleum Ass'n. "I have found a large number of jobbers in the state of Michigan have supported this plan of going to the public with their problems."

Mr. Wylie, secretary of California retailers, stressed that the dealers' program should be education. First they must educate themselves, he said. Then supplying companies and the buying public must be educated. "When these three groups are properly educated and working together in understanding harmony, then we are bound to have the proper dealer relations and the proper relations which the petroleum industry really desires.

"We'd like to give the Oklahoma City boys a big pat on the back for the splendid start they have made, being able to get 70 per cent of the gallonage organized," Mr. Wylie said. "The only remaining task is to keep everlastingly at it, for education is never finished.

"It seems to be a case of where we dealers must educate ourselves, our suppliers and the buying public, or we die. Everywhere the great need is for dealers themselves to get together in organization, so they can properly start this campaign as Oklahoma City has done."

Retailers Await Reply

CHICAGO, Aug. 7.—Suppliers in the Chicago retail gasoline market, canvassed by the Gasoline Retail Dealers Assn. of Metropolitan Chicago, have under consideration the association's proposal to apply the Illinois Fair Trade law to establish a minimum price on their brand gasolines. The association has canvassed most of the oil companies, representing the retailers of the individual supplier, and is now awaiting the replies.

Rules for Trial On Price Of Gasoline to Tire Stores

BIRMINGHAM, Ala., Aug. 7.—Although denying a temporary injunction, the U. S. District Court here in a preliminary hearing, held that the Alabama Independent Service Station Assn., Inc., through its members, had the right to go to trial on the issue of whether the major oil companies are discriminating against the independents by selling gasoline to tire companies at tank car prices, two to three cents lower than the truck tank prices. George L. Gilliland of Birmingham, president of the association, said the suit would be prosecuted.

The association, through the Five Points Service Station, of which Gilliland is proprietor and through the Fifteenth Street Service Station of which Howard Aldridge, president of Birmingham Service Men, is proprietor, had sought a temporary injunction together with $100,000 in damages.

Judge T. A. Murphree held that a temporary injunction would "unduly hamper the defendants," but added that the plaintiffs were entitled to a trial by jury to determine whether present price differentials in favor of the major tire companies were justified as quantity discounts.

He also ruled that the gasoline movement was in interstate commerce and that anti-trust laws applied, as claimed by the independents. The oil company defendants contended that all sales in Alabama were made from bulk stocks of gasoline located within the state and that the acts charged were thus in intra state.

The complaint as amended charged that each of the oil company defendants conspired with one of the tire company defendants to lessen competition by an unjustified price differential in the price of gasoline to the tire companies as follows: Shell Petroleum Corp. with the Goodyear Tire & Rubber Co.; the Gulf Refining Co. with the B. F. Goodrich Co.; The Texas Co. with the Firestone Tire & Rubber Co.; the Standard Oil of Kentucky with the U. S. Rubber Products, Inc., and the Pan American Petroleum Corp. with the General Tire & Rubber Co.

The judge's ruling held that the Alabama Independent Service Station Association could not collect damages for its members, but that the members could join as parties in the suit if they desired.

"It is a matter to determine upon trial of this case whether differences in cost justify these differentials or not, and to what extent they are justified if they are partly justified," said the judge's ruling, which differed with the opinion of the Circuit Court of Appeals for the First Circuit in Lipson vs. Socony Vacuum Corp. supra. This court held that all differentials based upon quantity purchases are justified.

President Gilliland of the Alabama independents said his organization was prepared to show that a 2 to 3-cent differential did not exist between tank car and truck tank lots. In addition he said his association could show that tank car deliveries were not available to the independent stations.

Buy "Gas" From State, Patronize Oil Stations for Free Services

CHICAGO, Aug. 7.—The oil men over in Ohio who do not like the idea of their time and equipment being used to change motor oil purchased by customers in a Kroger grocery store can be sympathetic with Iowa oil men who have to furnish battery, windshield, rest room, tire and information service for state employes who buy their gasoline from the Highway Commission.

Some Iowa retailers have verbally complained of the situation, and oil men in the state were informed about conditions through the recent bulletin of the Iowa Petroleum Industries Committee.

"And incidentally, Iowa oil men from whom this business is diverted continue to serve this grand old state as the only unpaid employes—the best and cheapest tax collectors the world has ever known," comments the industry committee's article.

The State Executive Council in Iowa last June issued an order that, whenever possible, all gasoline purchases for state-owned or operated automobiles should be made from shops and equipment plants of the Iowa Highway Commission. The order is in keeping with the economy pledge of the present Iowa administration.

The highway commission buys gasoline, by counties, from the lowest bidder, and it has at least one shop or garage in each county. The order is inconvenient for some state employes, as a county highway garage or shop may be open only an hour or so in the morning and afternoon.

The order is inconvenient to retailers also, as the highway garages only sell gasoline and drain crankcases. That swells the non-revenue service station customers by the number of state employes who buy gasoline from the state but patronize oil company stations for "free" service.

Excursion Proposed To Ill. Oil Fields

CHICAGO, Aug. 7.—The railroads are seeking additional revenue out of the Illinois oil developments, besides transporting tank cars of crude oil.

The Illinois Central is canvassing folks in Chicago who want to see a real oil field in action about getting up a special train for Centralia, Ill., Aug. 19.

An all-expense tour is proposed, including a bus trip from Centralia to Salem and then back in the evening to see the gas flares burning after dark.

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The People are Writing A Better Editorial

By WARREN C. PLATT, Editor

First thought for an editorial this week, was to show the great importance to all industry, as well as to the oil industry, of the reversal of the convictions of the remaining 17 defendants in the first Madison oil case.

The decision of the U. S. Circuit Court of Appeals, rendered at Chicago last week, would seem to present to the U. S. Supreme Court, to which the government says it will appeal, many of the essential issues of the anti-trust problem that have been troubling both business and government. Most any kind of a decision by this highest court should make clearer some of the rules governing business today.

This first thought for an editorial also included the idea that possibly this reversal, climaxing other recent court reversals, might cause the Department of Justice to temper its past conduct. This Circuit Court of Appeals just as the Federal District Court at Fort Worth, Texas, did, found and said some pretty harsh things of this department of government that is supposed to be high minded, fair and to aid in the dispensing of justice according only to the highest standards.

This U. S. Circuit Court's decision said, in practical effect, that the Department of Justice, under the NEW DEAL, has been dishonorable, unscrupulous, untruthful and guilty of illegal methods and, the court's finding of fact indicated that it had been guilty of the double cross.

There is no question but that the Department of Justice is being filled with many newcomers of a fanatical and intolerant mind who do not hesitate to use the great power of the department to attack citizens without hesitation. The citizens are helpless to counter-attack on these men personally. If they could the chances are these newcomers would not attack. It is this abuse of the department's powers that the courts today at least have begun to severely condemn.

This projected editorial would have reviewed the big events of the past few days; the throwing out by courts of the New Deal's attacks on the dairy and public health officials of Chicago for an alleged milk conspiracy, the discharge of the doctors who had been indicted for organizing to protect their profession; how an outstanding labor leader (?) lost his head and showed a celebrated Texan further toward the White House and how other labor leaders led strikers in riot. This editorial would have dwelt upon how quickly the police in these cities halted the riots and enforced the laws for the non-strikers as well as for the strikers and it would have noted that the newspapers applauded.

Then this prospective editorial would have reported the climax of the rebellion in Congress and how in the closing days of the session, Congressmen, the representatives of the people, turned on the NEW DEAL and administered severe rebukes against more spending, more lending, and against giving the NEW DEAL power to do a little international war trading.

With all this progress toward a return to popular democratic government after six years of appeals to class hatreds and demands for more unlimited powers—well, an editorial on the Madison case alone, great as that case is, would only be one incident in this much welcomed reformation.

What is of outstanding importance today is that the American people seemed to have stopped to think about their own responsibilities to this government and this fact has at last reached their representatives in Congress and a few other places.

No editorial could say any more than what has been said of late, nor could it say it so effectively as the American people are saying it.

So the editorial to write now is one of the future, of what can the oil industry plan to do in the right-now tomorrow? How can the industry best go about ascertaining exactly what its troubles are and how it may reduce if not even remove some of them?

Following is that editorial. Here we look ahead to this Fall and Winter, and, we hope, to a better and more profitable oil industry.

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And Now to Profitable Prices

With political investigations halted for the moment, with the Department of Justice rebuked for the fourth time in an oil case, and the NEW DEAL seemingly stayed in its efforts to "master" American industry, the oil industry may well turn to a study of the balance of this record-breaking, gasoline consuming year, and see if it cannot get some reasonable profits from it. If the industry succeeds there is hope that it may not be shot in the back for thus aiding recovery.

While the industry has a big problem in handling the subject of conservation of its crude supply, there are today

many forums where that subject is being discussed and studied frankly and from all angles. And so far, except possibly in the present grand jury investigation in California, the industry has not been attacked by government for carrying on this study or enforcing the laws that have resulted therefrom, even though price necessarily has been and must be affected by conservation. As a result of this freedom of discussion, engineering practices and laws have been evolved by the industry itself, that are each year making great advances toward a 100% conservation of crude oil and natural gas.

But the oil industry has an equally and today probably a much greater problem and that is of a sound and profitable price structure. In fact poor marketing practices are helping to damage the producer with their low prices and these low prices are hindering the handling of the conservation problem. Yet because of the numerous attacks on the industry for alleged anti-trust law violations and particularly because of the reversal of the New Deal's Policy from co-operating with the oil industry to get fair market prices to attacking it for having succeeded, there is no forum where the industry's major marketing problems have been discussed the way they should be. Independent marketers and dealers in their group and state meetings, have talked over some of their troubles, but the major companies have felt it necessary to keep a thousand miles away from such discussions for fear of another Madison attack, no matter how legal their participation in such discussions might be.

This fall there will resume the annual meetings of state marketers' associations, which will be attended by quite a few thousand important marketers. There also will be the usual meeting in November of the American Petroleum Institute. Perhaps the legal departments of the larger companies now can find enough portents of fair behavior by the NEW DEAL to warrant their approving of the attendance of major company executives at some of these meetings and participating in public discussions of the industry's marketing difficulties? Perhaps these oil company lawyers may let even the Institute schedule, for the first time in a great many years, the presentation and the discussion of talks on the industry's marketing evils?

Certainly these marketing meetings are the best forums to debate these subjects. Certainly if the NEW DEAL wants business to bring about recovery, as it keeps saying it does, it will see to it that its Department of Injustice restrain itself to fair interpretations of the laws and the use of lawful methods and conduct in court and out, so that these troubles of the oil industry may be considered without undue molestation. The establishing of fair and sound and profitable marketing practices—all within the law—will help much in continuing the development of proper conservation measures for this natural resource.

Subjects for a Marketing Forum

So this fall and winter these marketing forums might well consider the following subject:—

1—How to figure what a profitable price on a petroleum product should be. This does not mean a hair splitting accountant's argument but ascertaining in a fair measure the cost of a product and adding a profit in order to arrive at a sales price.

2—Who should figure the day's market price? The salesmen or the management?

3—Is not maintaining a sales price the personal responsibility of each individual market unit, rather than the obligation only of the "market leader" or the "other man"?

4—Who is a "market leader" today? How much gallonage does one have to have to enjoy such responsibility? What can present "market leaders" do with their percentage of the business, to help the situation, if anything?

5—Should not every man in the oil industry who has anything whatsoever to do that affects price, whether he be the salesman, agent, district manager, the owner, marketer or vice president of a major in charge of marketing, be made to realize a personal responsibility for the price that he should get to make a profit for his company?

6—Cannot each company, large and small, definitely make each such man realize that responsibility by installing a plan to pay a bonus to these men for what each does to create and maintain a profitable price? Other industries do it. Cannot such a bonus be instituted at once so that the companies may have an opportunity to get profitable prices yet this Fall and Winter?

7—What is the theory of "national" or other type of large consumer discounts? Are they to be allowed off the price of the nationally advertised brand which, presumably includes the cost of the advertising and all merchandising aid to marketers and retailers? Is the discount supposed to be the amount of this merchandising cost? If so then why take this discount off the price of "unbranded" gasoline at which practically all national brand companies sell their gasoline to the marketers? If the discounts do not represent the "saving" in the merchandising cost then why allow national accounts any discount at all?

8.—Should national advertised gasoline, backed up by good merchandising aids, be sold at the refinery at the price of unbranded gasoline? If not then at what price? By the national brand companies contracting to sell their well advertised product on the spot gasoline market, do they not thereby sell it at the price of unbranded gasoline all the time? If so who then is cutting the price, the national brand company or the Independent refiner who is selling unbranded gasoline to buyers who supply their own brands and supporting advertising, if any?

9—Should the industry express its opinion on a policy of guaranteeing margins to resellers, whether they be commission agents, marketers or retailers? Is a guaranteed margin in the long run conducive to a general healthy market?

10—What does a trackside or price seller's differential under the price of the so-called market leader represent? Is it superior management? Lower price buying? Saving in not having any national advertising or what?

There are many other marketing subjects that could be discussed, which should go far toward all marketers having a better understanding of the industry's problems and alleged evils.

Perhaps it would be in order to have these meetings express an opinion on some policies?

Perhaps an effort to establish an oil marketing code that would set forth fundamentals of good management, instead of trying to give a lot of "don'ts" and through them govern a marketer's every act, would be feasible and a natural outcome of such discussions?

At all events, the marketing division of the oil industry, except during the few years of the oil code, never has felt itself free to talk over such problems. Perhaps now, following all the rebukes that have been administered the New Deal may be willing to let the industry talk over some perfectly legal efforts to try and improve its marketing practices?

It would seem there certainly are some of the above subjects that big and little companies can properly discuss in town meeting.

Oil Transportation News

Latest developments in freight rates, legislation, taxes, regulations, and new construction affecting the transportation of petroleum products by truck, barge, tanker, pipeline, and railroad.

ICC Regulation Is Urged On Oil's Private Trucks

(*Continued from page* 9)

tract carriers by truck, should also take over regulation of private trucks.

The Motor Carrier Act of 1935 provides in Section 204 (a) that the ICC may establish for private carriers "if the need therefor be found" reasonable requirements to promote safety of operation, "and to that end prescribe qualifications and maximum hours of service of employes and standards of equipment."

It was under this grant of authority that the commission inaugurated its investigation into the "need" for such regulation.

At the hearings last fall and winter the private truck owners, including representatives of the petroleum industry, contended that private trucks are adequately regulated by state authorities.

Protest at Hearings

The private truck representatives objected particularly to being subjected to the provisions of Section 220 of the Motor Carrier Act, and expressed grave fear that the commission, under the provisions of Section 204 (a) (3) would be authorized and would call for reports and examine the records of the carriers for the purpose of inquiring into matters entirely unconnected with safety of operation.

(The section referred to reads, in part, as follows: "In the event such (safety) requirements are established, the term 'motor carrier' shall be construed to include private carriers of property by motor vehicle in the administration of sections 204 (d) and (3); 205, 220, 221, 222 (a), (b), (d), (f), and (g); and 224.)"

Commenting on this expression, the ICC examiner said in his report:

"The only authority granted the Commission by the Motor Carrier Act, 1935, over private carriers of property is found in section 204 (a) (3). That authority is by precise terms limited to prescribing regulations to promote safety of operation if the need therefor is found. In view of this fact, it is clear that, if regulations applicable to private carriers of property are prescribed by the commission, such carriers would be subjected to the provisions of (sections listed above) . . . . only insofar as is necessary for the commission to exercise authority specifically granted by Section 204 (a) (3). The Commission will not have the authority to require reports from private carriers of property or examine their records which do not pertain to the safety of operation."

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"Findings of Fact" for U. S. Control of Private Trucking

The 20 "findings of fact," which Examiner Snow submitted with his recommendation that the Interstate Commerce Commission take upon itself the regulation of privately-owned motor vehicles are given below. The last six contain exemptions applying only to operations of farm trucks.

1. That approximately 3,000,000 motor vehicles are operated in interstate and intrastate commerce by private carriers of property;

2. That approximately 20 per cent of this total is used in transporting property in interstate or foreign commerce, which exceeds the number of motor vehicles operated by common and contract carriers in such commerce;

3. That under the same conditions a motor vehicle operated by a private carrier of property is as great a potential hazard to safety as a motor vehicle operated by a common or contract carrier and should be subjected to the same regulation;

4. That the several States do not impose the same regulations upon the operation of trucks by private carriers of property as they do upon trucks operated by common and contract carriers;

5. That 28 States do not in any way regulate or limit the hours of service of drivers of motor vehicles operated by private carriers of property;

6. That it is unsafe and in fact extremely hazardous to permit a fatigued driver to operate a truck upon the highways of the country and that the long hours which are dangerous per se are prevalent in the private carrier industry;

7. That a number of States permit boys of 16 years of age to drive trucks, and many States permit boys under 21 years of age to do so;

8. That it is dangerous to permit an individual under 18 years of age to drive or operate trucks on the highways of the country and many drivers of trucks operated by private carriers of property in interstate and foreign commerce are under 18 years of age;

9. That it is dangerous to permit an individual under 21 years of age to drive or operate a heavy truck on the main highways of the country where traffic is heavy and exposure to accidents is great; and many drivers of trucks operated by private carriers under such conditions are under 21 years of age;

10. That many States do not require trucks operated by private carriers of property to be equipped in a manner deemed necessary for the safe operation of such vehicles and for the protection of the public, and many trucks operated by private carriers of property are not so equipped;

11. That it is dangerous to permit individuals who are not in good physical condition to drive or operate trucks over highways where the traffic is heavy and exposure to accidents is great;

12. That based upon the specific findings herein above recommended there is need for Federal regulation of private carriers of property to promote safety of operation of motor vehicles used by such carriers in the transportation of property in interstate or foreign commerce;

13. That with the exceptions referred to in subsequent recommended findings, the hours of service rules and regulations prescribed for drivers of common and contract carriers by the Commission's report and order in Ex Parte No. MC-2, 11 M.C.C. 203, a copy of which rules and regulations is attached hereto and made a part hereof, are reasonable requirements to promote safety of operation by private carriers of property, engaged in interstate or foreign commerce, and should be prescribed for such carriers;

14. That with the exceptions referred to in subsequent recommended findings, the safety rules and regulations prescribed by the Commission's report and order in Ex Parte No. MC-4, dated May 27, 1939 (not yet reported), a copy of which rules and regulations is attached hereto and made a part hereof, are reasonable requirements to promote safety of operation by private carriers of property engaged in interstate or foreign commerce and should be prescribed for such carriers;

15. That motor vehicles controlled and operated by any farmer and used in the transportation of his agricultural commodities and products thereof or in the transportation of supplies to his farm, which vehicles are herein termed farm trucks, are operated under conditions substantially different from those under which motor vehicles are operated by other private carriers of property and by common and contract carriers;

16. That because of such different conditions, individuals between the ages of 18 and 21 years should be permitted to drive and operate farm trucks of a gross weight not in excess of 10,000 pounds (the vehicle and load both included). Rule 1.21 of the safety rules and regulations prescribed by the Commission under date of May 27, 1939 (not yet reported), as so amended should be prescribed for private carriers of property operating farm trucks in interstate or foreign commerce;

17. That because of said conditions surrounding the operation of farm trucks, a physical examination should not be required for drivers of such trucks. Rule 1.3 of the safety rules and regulations prescribed by the order of May 27, 1939 (unreported), should not be prescribed for private carriers of property operating farm trucks in interstate or foreign commerce;

18. That because of said conditions surrounding the operation of farm trucks, Rule 2.6 of the safety rules and regulations prescribed by the Commission's order of May 27, 1939 (unreported) prohibiting the transportation of passengers upon trucks except, under certain conditions, should not be prescribed for private carriers of property operating farm trucks in interstate or foreign commerce;

19. That because of said conditions surrounding the operation of farm trucks, it is unreasonable to limit the hours of duty of a driver of a farm truck but his hours of driving should be limited to a total of 50 hours in any one week. Rule 3, paragraphs (a) and (b) of the hours of service rules and regulations prescribed by the Commission's report in Ex Parte No. MC-2, 11 M.C.C. 203, as so amended should be prescribed for private carriers of property operating farm trucks in interstate or foreign commerce;

20. That because of conditions under which work trucks of the type referred to in this report are operated, it is unreasonable to require drivers of such trucks to maintain a driver's log. Rule 5 of the hours of service rules and regulations should not be made applicable to such operations.

Hearing Set on Complaint

WASHINGTON, Aug. 7.—Hearings will be held at Beaumont, Texas, Oct. 9 in the complaint of the Port Commission of Beaumont that rail rates on petroleum and products and other commodities from interior points to Beaumont are higher than to other ports, and thus impose an extra burden on Beaumont's commerce.

FavorableMove In Proposal to Cut Rail Rate

ST. LOUIS, Aug. 7.—After considering the proposal for reduced petroleum rail rates from the southwest to destinations in Standard of Indiana marketing territory (S.W.F.B. Docket 17221), the Executive Committee of the Southwestern Freight Bureau has referred the matter to a special meeting of the Western Trunk Line Committee and Southwestern Freight Bureau executive officers on Aug. 29.

This action was construed as favorable, since joint consideration is expected to speed up final decision on the proposal that would reduce petroleum rail rates between representative points from 0.56 to 0.76 cents a gallon on gasoline.

The proposal (S.W.F.B. 17613) for reduced rail rates from southwestern refining centers to destinations in the central eastern U. S. was also considered last week by the Executive Committee of the S.W.F.B. Joint consideration of this proposal also was believed necessary, so a hearing by S.W.F.B. and Central Freight Ass'n., in whose territory reduced rates would apply, was scheduled for Aug. 15.

Other Matters Considered

The S.W.F.B. Executive Committee approved S.W.F.B. Docket 16271 for an approximate 35 per cent reduction in Oklahoma intrastate rates on petroleum, but disapproved that part of the docket which would have reduced rates between Oklahoma and Kansas points the same amount.

It was believed, however, further consideration would be given that part of the docket affecting Oklahoma to Kansas and Kansas to Oklahoma points. Rates approved by the Executive Committee must be "checked out" preparatory to final consideration and publication.

A proposal to reduce rates from Oklahoma and Texas Panhandle origin points to Colorado destinations will be given further consideration by the committee at its Sept. 6 meeting. This proposal, numbered S. W. F. B. 16284, would re-instate the relationship with the Wichita, Kans., group which existed before the 10 per cent hike in rates provided for in Exparte 123 went into effect.

Portland Rate Hearing

WASHINGTON, Aug. 7.—An Interstate Commerce Commission examiner will hold hearings at Portland, Ore., Oct. 3, on another phase of the rails' battle to regain petroleum tonnage lost to barges and trucks. The hearing will be on I. & S. Docket No. 4637, petroleum products from Portland and Seattle to Washington points.

Hearing in Globe Rate Case Is Set

N. P. N. News Bureau

WASHINGTON, Aug. 7.—Hearings will be held in Chicago Sept. 27 on complaint of Globe Oil & Refining Co., against charges for rail shipment of petroleum products from its Lemont, Ill., refinery, as compared with charges assessed its competitors to the same destinations in Indiana and lower Michigan.

According to Globe, its competitors operate "refining or distributing stations at Whiting, East Chicago, Indiana Harbor and Hammond, Ind., and Chicago, Burnham, Blue Island and Franklin Park, Ill.," and rates from these points to equidistant points in the territory named above are lower than rates from Lemont.

Globe contends that motor truck competition, on which reduction of rates from points other than Lemont were granted, is equally existent from Lemont to the destinations in question, and asks reparation amounting to $25,000 pending the finding by ICC that the assailed rates are unreasonable.

Tank Ass'n. To Meet During Truck Show

DETROIT, Aug. 7. — The National Truck Tank Ass'n will hold its annual meeting in Chicago during the week of the National Motor Truck Show beginning Nov. 8, J. E. Julian, president of the truck tank association has announced. The American Petroleum Institute's annual meeting also will be held in Chicago the same week.

Twenty-four manufacturers of trucks and equipment have already purchased space at Navy Pier, where the National Truck show will be held, according to J. F. Winchester of New York, Standard Oil Co. of New Jersey, president of the truck show.

A number of other organizations interested in the technical phases of motor truck and trailer hauling, will hold meetings in Chicago at the same time the truck show is held.

Still Consider Upping Wisconsin 'Gas' Tax

MADISON, Aug. 7. — The threat of a higher gasoline tax in Wisconsin continues to hang over the industry this week, in spite of the defeat of two proposals to increase taxes last week in the Senate. A proposal for a 1.5-cent increase is reported to be under consideration.

The Assembly's revenue bill to balance the budget had two gasoline tax amendments tacked on in the Senate. The amendment to increase the tax one cent was defeated by a 17 to 14 vote, and the amendment to increase the tax 0.5 cent by 15 to 14. Both amendments lost also on reconsideration.

A one-cent increase is estimated to yield about $10,000,000, sufficient to balance the budget. Both bills defeated last week would have diverted the additional tax revenue to charitable and school funds.

Draft Madison Case Appeal to High Court

WASHINGTON, Aug. 7.—A petition to the U. S. Supreme Court asking for a review of the Chicago circuit court's review decision on the Madison oil cases is being drafted at the Justice Department.

While the department will not reveal what points it will cover in its petition, it is a foregone conclusion it will challenge the Circuit Court's ruling as to "reasonableness" of the alleged conspiracy in restraint of trade.

It is not likely that the petition, asking that the Supreme Court issue a writ of certiorari to the Chicago Circuit Court, will be filed before next month. John Lewin, one of the attorneys who handled the Madison cases, probably will be in charge of drafting the petition.

In addition to the petition, the ponderous record adduced in the trial court at Madison will be filed with the high court.

Book Radio Stars For N.P.A. Meeting

WASHINGTON, Aug. 7.—"Four outstanding speakers," names to be announced later, will appear on the program of the 37th annual meeting of the National Petroleum Assn. at Atlantic City, Sept. 13-15, the Washington office of N.P.A. has announced.

In addition, Lowell Thomas, well-known news commentator, will make his regular broadcast from the annual banquet of the association Sept. 14.

Also, in the way of entertainment, Lucille Manners, Cities Service soprano, the Revellers quartet, and Col. Stoopnagle, of "Stoopnagle & Budd", have been engaged for the program.

Cornerstone Laid For Co-op Refinery

WASHINGTON, Aug. 7.—Cornerstone of the first co-operative oil refinery in the U. S. was laid at Phillipsburg, Kans., Aug. 2—with much of the money to build the plant coming from the federal government, through the Farm Credit Administration.

The FCA makes no bones about its contributing to the financing of the co-op refinery, although it is organized primarily to finance farmer co-ops.

The refinery, according to co-op news services, is being built at a cost of $600,000 to serve part of the 120,000 members of the Consumers Co-operative Assn. co-operatives.

The start on the refinery is also said to mark a major step "into production" on the part of U. S. oil co-ops, which "do a non-profit business of $110,000,000 a year in petroleum products."

Start $1,000,000 Alkylation Unit

HOUSTON, Aug. 7. Start of construction of a $1,000,000 alkylation unit for the production of 1200 barrels per day of a high octane base material for the manufacture of aviation gasoline was announced here today by Shell Oil Co. The plant is being built by C. F. Braun & Co. and is scheduled for completion Nov. 1.

An additional $200,000 is being spent for the construction of equipment at Norco, La., for the recovery of isobutane, which will make up a small part of the raw material for the alkylation plant.

Six Months' Earnings

CHICAGO, Aug. 7.—Pure Oil Co. reported consolidated earnings for the first half of 1939, after all charges, of $2,433,456, against $2,021,440 in the first half of 1938.

Lion Oil Refining Co. reports first half profits of $215,178, against $595,000 in the first half of 1938.

Indiana Standard in Ambitious Program of Expansion for 1939

N. P. N. News Bureau

CHICAGO, Aug. 7.—Recent announcement of the Standard Oil Co. of Indiana's offer to buy the Standard Oil Co. of Nebraska has focussed attention of the 1939 expansion program of this company.

Not since 1935, when the Yount-Lee properties in the southwest were purchased, has the Indiana Standard put on such an ambitious program. Major developments so far this year are;

Construction of a 438-mile crude oil pipeline across the Continental Divide to move Wyoming crude west to the Salt Lake City refinery of a subsidiary, Utah Oil Refining Co. The construction work is starting now and the line is expected to be completed this year.

An offer to purchase the Standard Oil Co. of Nebraska for about $2,900,000. The Indiana company has put $800,000 in escrow in Omaha for the deal, and Nebraska Standard stockholders will vote Aug. 29 whether they will accept $17.50 a share for their stock.

The rumored gasoline pipeline from the parent company's refinery at Sugar Creek in the Kansas City district, to Council Bluffs, Ia., across the Missouri river from Omaha and the big eastern Nebraska gasoline market.

Cost $7,500,000

The Wyoming crude line, estimated to cost some $4,500,000, plus the Nebraska Standard offer, stands to cost the Indiana company about $7,500,000. This figure does not include the cost of the rumored Iowa gasoline pipeline, nor any of the routine replacements or additions to the company's present properties.

The Wyoming crude pipeline was caused by competition from truck transports, so Edward G. Seubert, president of Indiana Standard, last week informed Senator O'Mahoney of Wyoming who protested the line. This competition made necessary a decision—to close the Salt Lake City refinery of Utah Oil Refining Co. or get in the competitive swim by shaving expenses with more economical crude transportation, Mr. Seubert said. The decision was to save the refinery, continue employment, and aid prosperity by building a pipeline to carry crude up one side of the Continental Divide and down the other. The refinery now operates on Wyoming crude delivered in tank cars.

The Nebraska Standard situation has been in the making for several years. That company, limited in its marketing to the one state, had a hard row to hoe. Nebraska has suffered from grasshoppers, drought and depressed farm prices.

Petroleum competition is severe throughout the state. A jobber in south-central Nebraska some years ago discovered he could haul gasoline from Kansas by truck, buying in smaller quantities and thus affect a considerable savings in freight, and that was the beginning of an industry that now transports more than 50 per cent of the refined products consumed in Nebraska. In the western part of the state there are numerous small refineries, operating on crude trucked in from the west. At the eastern end is a terminal of the Great Lakes Pipe Line Co., which lays down gasoline for several oil companies in Omaha.

The taking over of the Nebraska Standard basically would not affect Indiana Standard's volume, as the Indiana company has been the supplier for the Nebraska company.

Gasoline Line Logical

If the Nebraska company stockholders do accept the Indiana company's offer Aug. 29 the construction of a gasoline pipeline would be as logical as a veil on a bride.

The Indiana company's Sugar Creek refinery has been supplying eastern Nebraska, and the rail gateway to the state is Omaha. The pipeline ending in Council Bluffs would be right in the center of an area comprising the most populous part of Nebraska and the rich agricultural territory of western Iowa.

The last previous big expansion of the Standard of Indiana was in 1935 when Yount-Lee Oil Co., the Yount-Lee Pipe Line Co., and the Yount-Lee Terminal at Beaumont, Texas, were purchased. These producing properties were mainly on the Gulf coast of Texas and Louisiana.

In 1936 the company's pipeline from Clayton, Wyo., to Freeman, Mo., was recondition ed, Pan-American, a subsidiary, put four tankers in service, and a combination cracking unit was completed at Pan-Am's refinery at Texas City.

In 1937 the company launched the 465-foot S. S. Red Crown, increased pipeline capacities by new loops and stations, increased the capacity of the generating plant at the Whiting refinery, built a new pipe still for asphalt at Sugar Creek, and increased storage at Great Lakes marine terminals.

In 1938 a new 18,000-barrel combination cracking unit was put in operation at Whiting, another combination cracking unit was built at Texas City by Pan-Am, and Pan-Am launched two more tankers.

Two Made Sohio Vice Presidents

CLEVELAND, Aug. 3.—Sidney A. Swensrud, head of the supply and transportation department and George W. Hanneken, general manager of manufacturing, Aug. 1 were elected vice-presidents of Standard Oil Co. of Ohio, President W. T. Holliday announced.

Mr. Hanneken, who is now in charge of Sohio's plants in Cleveland, Toledo, Lima and Latonia, Ky., has spent the past 37 years in oil refineries. He came up through the ranks, starting with Standard of Kansas at its Neodesha refinery as a pipe fitter helper in 1902. He advanced to supervisor of cracking and coking stills. When Sohio started plans for its Toledo refinery in 1917, he was called in to take charge of construction and he remained as superintendent after its completion. In 1936 he came to Cleveland as head of the company's manufacturing department.

Mr. Hanneken was born in Henry county, Missouri. He attended public grade school and worked on a farm for several years before joining Standard of Kansas. He resides in Cleveland and has five children from 17 to 27 years old, three of whom are married.

Mr. Swensrud, who becomes a Sohio vice president at 39, was born on a farm near Northwood, Ia. He graduated from University of Minnesota in 1923 and spent two years in sales analysis work with Washburn-Crosby Co., now General Mills, then left to study at Harvard School of Business, graduating in 1927. For over a year he served as a member of the faculty there, in the marketing research department.

He joined Standard of Ohio in 1928 as assistant to the president and head of its business research department. His department will continue to cover the procurement of crude and other supplies, construction and operation of pipe lines, the co-ordination of refinery output with sales requirements and transportation of products. He is married and has two children.

Shell Spends Eight Million In Modernizing

ST. LOUIS, Aug. 7.—Shell Oil Co. has started an $8,000,000 expansion and modernization program at its Wood River, Ill., refinery. The additions and alterations will add about 25,000 barrels daily crude capacity to the refinery, bringing its total capacity up to 75,000 barrels daily, and will result in the addition of more than 300 men to its permanent payroll. About 1000 construction workers will be employed.

In announcing the program, Alexander Fraser, Shell president, said that "constant improvements in refining processes make frequent changes in equipment necessary to maintain highest efficiency of operations. Utilization of by-products, as in the new alkylation process, is all-important and this can be best accomplished by concentration of operations. These factors", he added, "are largely responsible for the Wood River expansion and the projected closing of the East Chicago, Ind., refinery."

For High Octane Fuel

Highlights of the program, as outlined by Mr. Fraser, include the construction of a plant for the manufacture of high octane base material for motor and aviation fuel, from waste gases by the newly-developed alkylation process, and a new 18,000-barrel daily capacity Dubbs cracking unit.

A new high-pressure boiler to carry steam pressure of 650 pounds and designed to deliver 125,000 pounds of steam per hour, will operate on either gas, oil or coke.

Extensions will be added to the coking plant, including a recently developed process originated at Wood River for removal of coke from coking chambers by means of high pressure hydraulic jets instead of the former spiral cables.

Other features of the modernization program are a 25,000 barrel crude topping plant, modernized and extended chemical treatment plants, a $100,000 machine shop, auxiliary equipment to produce numerous special industrial solvents, additional water wells, water cooling towers, additional 100,000 barrel storage tanks, and arrangements to increase the refinery's electric power intake.

Contracts also have been let for extensions to the office building, wash house and locker rooms and warehouses, amounting to approximately $100,000.

Many Bills Affecting Oil Hold Over To Come Up Before the Next Congress

N. P. N. News Bureau

WASHINGTON, Aug. 7.—After seven months of wrangling which wound up in a succession of reverses for New Deal-inspired legislation, the first session of the 76th Congress has quitted Washington.

Left behind is a mass of unfinished business, some to be acted upon at the next session; some destined to languish through and die with the end of the coming session.

Since the next session of Congress, starting in January, is of the same 76th and not a new Congress, bills on which action was not taken at the session just ended can again be brought up for consideration.

Amid this pile of unfinished legislation are a number of bills directly and indirectly affecting the oil industry, although action on strictly oil measures, aside from renewing the Connally "Hot" Oil Act and extending the Interstate Oil Compact, was conspicuously absent from this session.

The session which has just closed was paradoxical, in that it was the greatest peace-time spending session in history (about $13,000,000,000) and at the same time it was the session which first effectively blocked a Roosevelt-sponsored spending program.

Perhaps the most far-reaching general legislation of the entire session was the enactment of the Hatch bill to regulate political activities of federal employes, reluctantly signed by the President. The Congress gave the President a measure of the authority he asked for reshuffling the federal departments, also.

So far as the oil industry is concerned, the high point of the session was the introduction by Rep. Cole, Maryland, of an Interior Department-drafted, White-House-recommended bill for federal oil control. This followed a White House conference between the President, legislative leaders and heads of the oil agencies in the Interior Department. The bill carries out the often-expressed wishes of Interior Secretary Ickes for federal oil control—under his wing.

No. 1 Holdover

This bill is "No. 1" of the holdover measures awaiting action by the next Congress, in the eyes of the oil industry, and it will form the basis for further investigations by the Cole "oil subcommittee" of the House Interstate Commerce Committee during Congress' recess.

Another interim study which may mean much to the producing branch of the petroleum industry is that to be made by the Ways and Means Committee, with suggestions from the Treasury Department, aimed at a revamping of the federal tax structure. It is known that the depletion allowance is on the agenda for this investigation, and further, that the Treasury Department feels that the allowance is one of the "most glaring loopholes" in the present tax structure. So it is likely there will be a lengthy battle before the opening of the session next January between the mining and oil companies interested in retaining this feature and the Treasury Department, interested in abolishing it.

Oil Import Tax Increase

The tax study also will take up the various tax proposals made at the past session for adding to the levy on oil imports, as well as the coal industry's proposal to impose an "equalizing" tax on fuel oil used for heat and power. None of these bills were acted upon at the past session, although they had solid support of the coal interests, and the import proposal for 3 cents per gallon on all foreign petroleum products had also the support of the Independent Petroleum Assn. of America.

The general taxation legislation passed at the session just ended included extension, however, of the federal "emergency" tax of one cent a gallon on motor fuel and 4 cents on lubricating oil.

One action by this Congress of importance to oil and all industries was the complete wiping from the statute books of the undistributed profits tax. This tax, which was fought by all business as a penalty against progress and expansion, was virtually killed by the 75th Congress and entirely removed at the session just closed.

Another "holdover" measure on which some sort of a decision is expected before the next session convenes, and which has a direct connection with the oil industry, is the omnibus transportation bill. Passed by the Senate in one form and by the House in another, the legislation was given to conferees from both Houses for compromise. Just before the end of the session the conferees met, were unable to agree, and determined to meet again in December to try and thresh out and adjust the differences between House and Senate bills.

Water Carrier Regulation

As passed by both Houses, the measure provides for Interstate Commerce Commission regulation of water carriers, although a number of amendments in the House versions are aimed at elimination of tankers from this ICC control.

Efforts of farm organizations and truck-using industries were successful in keeping from the bill any further regulation of private carrier trucks than is already provided in the Motor Carrier Act, which was passed in 1935.

One of the differences to be threshed out by conferees on the transportation measure concerns land-grant rail rates. As passed by the House, these rates would be abolished, as was requested by the railroads; the Senate bill makes no provision for abolition.

Independent rail-shipping refiners would stand to lose considerable government oil business should the land-grant rates be abolished, since it is only through them that these refiners are enabled to compete with users of other forms of transportation in bidding on many government contracts for motor fuel, fuel oil, and other products.

These special rates were granted by the rails to the government many years ago, in return for grants of land given

Another special article from NPN's Washington News Bureau, on page 9 of this issue, tells of the recent recommendation of an examiner for the Interstate Commerce Commission that privately-owned trucks of industry generally be brought under regulation by the ICC.

Oil Proposals Holding Over Until Congress Reconvenes

Here is a list of the proposals in which the oil industry is directly affected, which were before Congress when it adjourned, and which will likely be brought up when the Senate and House reconvene in January.

1—The administration-sponsored bill for federal oil control.

2—Changes in the depletion allowance for oil companies in the revenue law.

3—Adding to the levy on oil imports, making the duty 3 cents a gallon on all foreign petroleum imported.

4—Putting an "equalizing" tax on fuel oil when used for heat and power purposes.

5—Extension of regulation by the Interstate Commerce Commission, under the Motor Carriers Act, to include oil companies' tankers and barges and also their privately-owned trucks.

6—Bills to divorce the pipelines from oil company control.

7—Bills to "divorce" marketing operations from other branches of oil companies' operations.

8—Bills to prevent pollution of streams with industrial waste.

9—Renewal of claims of the U. S. Navy and Interior Departments to oil under offshore tidelands on the Pacific Coast.

10—Proposals to exempt "alky-gas" motor fuel from the federal gasoline tax.

11—Amendments to the Walsh-Healey government contracts act, to make the law apply to smaller contracts and putting firms convicted of Labor Board rulings violations on a "black list", to prevent their bidding on government contracts.

the rails during the rail-building era.

The second session of the 76th Congress will have before it the oil industry disintegration bills which were introduced at the past session but not acted upon. These include the Borah-Gillette bill to divorce pipelines from oil company control, and the Gillette-Harrington bills to separate the major oil companies from the marketing branch of the oil business.

Hearings were held on the latter measure by a House subcommittee headed by Rep. Healey, Mass., but no report was made. Both bills have the backing of the National Oil Marketer's Assn., but are opposed by almost every other element in the oil industry.

Pollution Action Next Session

Action on the stream pollution bill also will have to await the re-convening of Congress, although the measure was passed by the Senate several months ago, and was on the House Calendar for several weeks prior to adjournment. The measure likely of passage—it has already passed the Senate and was favorably reported in the House—is the so-called Barkley "co-operative" bill, which has the endorsement of the oil industry as well as almost all other affected industries.

Rep. Mundt, South Dakota, egged on by the Izaak Walton League and other hunting and fishing groups, sought in vain to have his federal "policing" bill substituted in the House for the Barkley measure, but was forestalled. It is the same fight which has taken place in the last several Congress sessions, with the "nature lovers" on the one hand attempting to forcibly shut down all industries which discharge wastes into streams, and the industries and their friends, on the other hand, seeking to get government aid in studying their particular pollution problems, so that harmful discharges may be eliminated voluntarily. The Barkley bill carries out the wishes of the latter group, as well as of the White House.

The "Superhighway" group in Congress, which has unsuccessfully sought for so many sessions to promote a federal system of toll roads was given encouragement at the last session with the proposal of President Roosevelt that $500,000,000 be set aside out of the lending bill to construct toll highways.

Junking of the lending bill late in the session, which was one of the factors contributing to earlier adjournment than had been expected, also junked the White House proposal for toll roads, but Rep. Cartwright, chairman of the House Roads Committee, lifted the roads provisions from the lending bill after it was thrown overboard, and reintroduced them as a separate measure, which may see some kind of action at the next session.

Another major New Deal reverse of the past session was the refusal of Congress to alter the neutrality laws to give the President power to curtail shipments to countries he judged to be belligerent and at the same time to aid "friendly" nations.

Oil Exports to Japan Involved

After this action, several resolutions to embargo shipments of oil and other commodities essential to warfare to Japan were introduced, but no action was taken when it became patent that the State Department regarded the proposed embargo as a violation of the 1911 trade treaty this country has with Japan. It was only a few days after these resolutions were killed that the State Department called in the Japanese ambassador and gave him the six-months notice required by the treaty for its abrogation, thus opening the way for legal embargoes on shipments to the Nipponese empire next January. Japan's annual imports of U. S. petroleum products amount to more than 25,000,000 barrels.

Mexican Proposals

Oil entered into consideration of another phase of foreign policy by Congress in the past session. Early in the session Sen. Reynolds, North Carolina, urged that the U. S. break off diplomatic relations with Mexico in view of its attitude on oil expropriations. No action was taken on the proposal, and later in the session resolutions were introduced by Senators Bridges (New Hampshire) and Neely (West Virginia), urging that the Senate investigate reports that certain U. S. officials (the name of Sen. Guffey, Pa., was mentioned specifically) had abetted Mexico in not only the expropriation but in subsequent disposal of oil from the seized properties to the dictator countries. The Senate Foreign Relations Committee reported both resolutions unfavorably, asserting that no factual evidence to warrant such an investigation was at hand.

The report came after Sen. Guffey had branded the newspaper and magazine stories linking him with the expropriation as "character destroying falsifications," and had intimated that Marquis Childs, author of one of the stories in the St. Louis Post Dispatch, had taken money from someone other than his "regular employer" to write one story.

Childs has countered with a suit in court in the District of Columbia for $100,000 against Guffey, charging defamation of character.

Oil Tidelands Claimed

The past session saw a renewal of Navy and Interior Department activity to assert U. S. title to the offshore oil lands in the Pacific Ocean and the Gulf of Mexico, and lengthy hearings were held before subcommittees in both House and Senate. No reports ever came from the subcommittees, however, after the California oil industry, flanked by representatives of almost all oil producing states, who feared this would be a "first step" toward federal seizure of oil lands, built up an imposing record against the proposal. Rep. Tolan, California, led the fight against the measures, but Rep. Sam Hobbs, Ala., one of their chief proponents, has assured one and all that an effort will be made to pry the bills loose from committees and onto the floor early in the next session of Congress.

"Alky Gas" Has Many Supporters

Alcohol-blended motor fuel proposals also advanced further at the past session than ever before, although they have been before four or five earlier Congresses.

Most ardent "alky-gas" enthusiast at the past session was Sen. Chan Gurney, Yankton and Sioux Falls, S. D., oil jobber. Gurney attempted to have his proposal to exempt "alky-gas" from the federal gasoline tax hooked on to two or three tax measures during the session. He was unsuccessful, but he did muster a surprisingly large vote for the bill on the last "try," when it was defeated as an amendment to the general tax bill by a vote in the Senate of 38 to 28. Hearings were held in the Senate both on Gurney's and a bill by Sen. Gillette, and so "alky-gas" may be expected to get another fling at the next session.

Walsh-Healey Amendments

The 1940 session also will undoubtedly see some effort to get the amendments to the Walsh-Healey government contracts act out of the House Judiciary Committee, where they have reposed ever since their passage some months ago by the Senate. The amendments would make the act applicable to contracts for government supplies totaling $4000 or more, instead of $10,000 as at present, and would put firms who have been convicted in court of violating Labor Board rulings on a "black list," which would prevent them from bidding on government contracts. The Walsh-Healey Act provides that firms supplying government contracts must comply with certain regulations as to wages and hours of employes.

War, Navy, Interior, Treasury and other departments charged with purchase of government supplies have made known their opposition to the amendments, on the ground that they will make the procurement of government supplies even more difficult than at present, under the law which exempts contracts under $10,000.

In the field of anti-trust legislation, no particular important bills are to be seen as the result of the past session's work, although the Congress virtually doubled the Anti-Trust division's funds—from about $750,000 to around $1,300,000—and voted to give the Temporary National Economic (Monopoly) Committee another $600,000 to continue its studies.

Oil on TNEC Calendar

Oil is "first" on the list of hearings to be started by TNEC in September, although no definite date has been set. It is likely that the committee will consider, among other things, proposals of the National Oil Marketers' Assn. for pipeline and marketing divorcement, as well as for general "disintegration" of the integrated companies. Possibly these phases of the oil industry set-up will be covered in the recommendations to be made to the Congress by the committee early in the next session.

However, in view of the fact that the Anti-trust Division of the Department of Justice has received three court reverses during the past month on its interpretations of the statutes, it is likely that Congress will await rulings by the Supreme Court on appeals of the Department from these decisions; so that it may get a new slant on the present laws before taking any action on new proposals.

The same likelihood is expressed by informed observers here concerning the O'Mahoney-Borah corporate licensing bill, which would require federal licenses for corporations doing interstate business; the new O'Mahoney bill providing civil penalties for anti-trust law violations, and the Patman "Chain Store Tax" measure (H. R. 1),

which would tax chain stores doing interstate business up to $1000 per store, and would multiply the total tax thus obtained by the number of states in which the chain operated.

Although it is outside the realm of Congressional activity, the proposed petroleum fair trade rules may well be included in this discussion. In fact, a draft of the proposed code as prepared by the Federal Trade Commission in response to industry requests is understood to be before Anti-trust Division authorities now, awaiting approval. At the present time, chances for a petroleum code appear to be at least as remote as Christmas.

Sees No Threat In Control Bill

N. P. N. News Bureau

WASHINGTON, Aug. 8.—The new oil control bill is not a threat, in the opinion of Russell B. Brown, general counsel for the Independent Petroleum Ass'n. of America.

"It is not necessarily a symptom of a bureaucratic desire for power," he stated. "It may not be a manifest action of a fascist tendency toward regimentation. It contains much of a sound, practical program for the conservation of our petroleum resources. It is the voice of some saying, if you will not regulate yourselves, then you must be regulated."

In his periodic report letter, Mr. Brown said, "The members of the oil industry have done more than ask for this bill. They have made its preparation and its introduction logical to many.

"Programs for elimination of waste and for the balance of supply with demand have been drafted, enthusiastically adopted, and ignored," he said. "Every such program is today an indictment against the industry. We knew what we should do but we did not always do it. We cannot plead ignorance. The public record is against us.

"A short-sighted greed has damaged us. So many men, firms, corporations, wanted to get just a little more while the getting is good. After that they would behave. It is now that indefinite time after that."

Striking at the Justice Department, Mr. Brown said that "Texas had long had its 'hot oilers'. Punishment of these has been long delayed and made ineffective because the Department of Justice has been too busy harassing the constructive elements in the industry to lend its support to efficient agencies of the Government in suppressing 'hot oil' violators."

Misuse of Anti-Trust Laws Shown, Is Comment on Oil Case Reversal

Comment from newspaper editorials on the reversal by the U. S. Circuit Court of Appeals at Chicago of the conviction of the 17 remaining defendants in the first Madison oil case:

From New York Herald Tribune, July 29, 1939

The Strange Oil Case

. . . . It is no exaggeration to say that this was one of the strangest cases brought by the New Deal at the height of President Roosevelt's mania for persecuting business. The action for which the defendants were brought to trial had been instigated by the Department of the Interior. The Department of Justice, in bringing suit, instituted criminal proceedings instead of the civil suits which would have been the normal procedure in the case of alleged violations of the Sherman anti-trust act. . . .

. . . . Of course, the result makes the criminal process an extremely difficult and uncertain weapon of anti-trust enforcement, as innumerable Federal attorneys have discovered and have declared since the passage of the Sherman act in 1890, and as the Department of Justice is again demonstrating. In three of its criminal cases—against the Chicago milk dealers, the American Medical Association and the oil companies—it has now suffered severe defeats in quick succession. It simply underscores the lesson that if the anti-trust acts are to become really effective engines of industrial regulation they will have to undergo a vast refinement and clarification in purpose, precision and economic logic. But from the cavernous depths of the "monopoly" investigation, which is supposed to be performing this herculean task, there have so far emerged only fresh devices for imposing penalties, with very little idea as to what it is that ought to be penalized.

* * *

From Chicago Tribune, Aug. 1, 1939

Anti-Trust Persecution

. . . . The judges in this last case (the oil case), two of whom were New Deal appointees, could scarcely conceal their irritation at the course which the administration had followed. The practices for which the oil companies and their officials had been indicted were precisely the same as those which the government, under NRA, had forced the oil men to adopt. Evidence on this point, however, was largely withheld from the jury. It was as if a motorist had been ordered by a traffic policeman to disregard a red light, had been haled into court for violating the law, and then had been denied the right to tell the judge of the circumstances.

. . . . The enforcement of the anti-trust laws in previous administrations may have been something less than perfect, but at any rate it was sufficiently effective to prevent the cartelization of this country's industries along the lines made familiar by European practice. A great deal of support which NRA received from business derived precisely from the fact that the law was regarded as a means of getting around the antitrust regulations.

Mr. Roosevelt broke down the anti-trust laws and 200 lawyers, under Thurman Arnold, are now trying to put the pieces together again. Naturally, the record of accomplishment in this direction has not been impressive.

Whatever Mr. Arnold's deficiencies may be, Mr. Roosevelt cannot blame the courts for these reverses and Mr. Corcoran cannot blame Yale. The fault is primarily Mr. Roosevelt's. If he had not first broken down the anti-trust laws and then allowed them to be used an an instrument of persecution against selected enemies none of these defeats would have been suffered.

* * *

From Dallas Morning News, July 30, 1939

Reversible Error

Reversed and remanded for retrial, the case of twelve corporations and five individuals accused of conspiring to fix Midwest gasoline prices must again be heard, this time on the merit of the contention of the defendants. In the previous case, the court charged the jury that the acts alleged by the government constituted violation of the anti-trust laws in themselves. Hence it was only necessary for the jury to determine whether the acts had been committed. As in the main there was no denial of the acts, the original finding was an automatic one of guilt.

The appellate court holds on the contrary that the jury should have been permitted to weigh the merits of the reasons advanced by the defendants for their acts to decide whether the acts did in fact restrain the operation of interstate commerce. It is only fair that the case should be retried on this issue.

In the view of the average person, it is still difficult to see how any industry can have erred in regard to the antitrust laws for doing what the government at the time was attempting to get done to stabilize the oil industry and for that matter what it is still doing. The whole theory of proration fixes prices. The interstate oil pact fixes prices. The government threatens to intervene to fix them still more sturdily. In our topsy-turvy economic world no one knows when he is an industrial saint or sinner.

* * *

From Tulsa Tribune, July 28, 1939

Persecution Gets a Setback

. . . . The Madison trial will take its place in American history as being the most outrageous politically-inspired persecution of an industry which the nation has ever seen. The zealous business-baiters from Washington, anxious to demonstrate that "big business" in America was crooked and untrustworthy, deliberately chose as the site of the trial the capital city of a radical state, where no one knew anything about the oil business and where propaganda concerning bloated oil barons and rapacious oil corporations would fall on fertile ground.

The trial resembled a Salem witch-burning. Judge Stone did his best to be fair, but the most conscientious and intelligent native of the upper Wisconsin timber country could not be expected to become an expert in the technical ramifications of the petroleum industry in a few short weeks. The jury had enjoyed less than average education and used to keep a fiddle for hoedowns during the noon recess. And the government lawyers ranted long, loud, and eloquently about the "billionaires". The jury convicted everyone whom the judge had not previously dismissed. After the trial Judge Stone, over a period of months,

dismissed the majority of the convicted individuals. The circuit court's decision now expunges the last of the convictions which the New Deal secured in the Madison court.

The oil industry has had its rascals, its blue-sky artists, its hogs and its would-be monopolists. But the ethics of the average producer, refiner or marketer in the oil business is at least on a par with the ethics of the ordinary citizen and slightly superior to the ethics of the average congressman. The oil business did not deserve to become a whipping boy so that a group of socialistically-inclined brain trusters might hold the entire American industrial system up as an object of shame and ridicule.

The New Deal charged the oil industry with conspiring to curb competition and to fix prices. Both before and since those indictments were handed down the curbing of competition and the fixing of prices was and has been the New Deal's major technique in establishing what it has so far somewhat humorously referred to as a "prosperity." In seeking these convictions the New Deal sank to new lows in moral rottenness, for never before had the United States had an administration which sought to convict innocent men in order to fan blind class hatred into flame for political advantage.

* * *

From Cleveland Plain Dealer, July 29, 1939

Oil Case Reversal

The government is experiencing difficulty in making its anti-trust indictments stick. It lost the case against the Chicago milk producers and distributors. It failed to win a conviction against the American Medical Association in Washington. And now the conviction of seventeen midwestern oil companies charged with violating the Sherman anti-trust law is overruled by the Federal Circuit Court of Appeals at Chicago. . . .

. . . . People are no longer frightened by the "Big Trust" bogey. They are coming to realize and accept the whole trend of business toward large corporations. They had a lesson in the matter of regulation in prices under the NRA. That is what makes the government's case against the oil companies appear weak.

The alleged offense of fixing oil prices in their territory occurred immediately after the country had experienced the same thing in every industry and business under the sign of the Blue Eagle. To turn and charge the companies with doing what the government had urged them to do only a few months before seems to many unjust and unreasonable.

The circuit court holds that these companies did fix prices. But it is quick to point out that the prices set were lower in the area under the companies' control than in surrounding regions. Also the price which was allegedly "arbitrarily fixed" was at no time above the price which the government itself and the oil industry generally regarded as a parity price.

A case of this sort seems to accomplish little for the public good. It has the earmarks of undue interference with business, especially in light of the government's own philosophy in the price-fixing direction.

Court Tells Tender Board To Pass Rowan Nichols Oil

N. P. N. News Bureau

TULSA, Aug. 7.—Federal Judge R. J. McMillan at San Antonio ruled late last week that additional East Texas oil produced under a federal district court order from the "Todd 'B'" lease of the Rowan Nichols Oil Co. was eligible for interstate movement and ordered the Federal Tender Board to issue tenders for it.

The tender board was further enjoined by the court from "interfering with any pipeline companies or companies or any purchaser in transporting and marketing the said oil and from assessing any liability or attempting to enforce any penalty for the transportation or marketing of said oil in interstate commerce."

At the same time the court rejected pleas of 12 other East Texas oil producers to intervene in the case. Their petitions pointed out that increased production from the Rowan-Nichols' lease worked a hardship on them and was discriminatory.

The order affects oil produced from June 14 to Aug. 1 under a ruling of the court that set aside as discriminatory the Texas Railroad Commission's East Texas proration order as it applied to the Rowan-Nichols lease and doubled production from the wells thereon.

"Hellzapoppin'"

"Hellzapoppin' in East Texas again" was the word passed around when news of the recent court order was received. With a clear track ahead for interstate movement of the Rowan-Nichols oil produced, under the court's sanction, in excess of the commission's allowable order, it was believed other producers would take action similar to that of the Roman-Nichols Oil Co., to obtain more production from their East Texas properties. It was reported several companies already had drawn up petitions and that the court order requiring the Federal Tender Board to pass the oil might be the cue for filing them.

While the district court was hearing the Rowan-Nichols plea for injunction against the Federal Tender Board, Texas Railroad Commissioners were settling a week-old deadlock over which of the 10 petitions for increased East Texas allowables should be heard.

Commissioners Sadler and Thompson had agreed on Aug. 14 as date for a hearing, but couldn't agree on who should be heard. Colonel Thompson contended all 10 of the petitioners should be heard at once, while Commissioner Sadler held out for a separate hearing Aug. 14 on Humble Oil & Refining Co.'s petition.

The deadlock was finally broken Aug. 4, when Commissioner Smith returned from his vacation and signed an order with Mr. Sadler calling for a hearing Aug. 16 on Humble's petition. Main question to be considered at the Humble hearing, it was believed, is why Humble should not drill more wells on its leases to obtain the desired increase in production.

In the meantime while observers were watching East Texas producers for their next move in the battle for increased allowables for their properties, secondary developments were reported from other sections of the Mid-Continent.

The U. S. Interior Department has started to look into alleged "hot" oil activities in Louisiana as a part of the general federal investigation of corruption there. Preliminary work for the oil investigation had been completed, word from Shreveport indicated. It is expected to center in the North Louisiana fields. Findings of the Interior Department agents will be turned over to the Department of Justice.

There was also the reduction in Lisbon, N. La. crude oil prices reported last week by Gulf Refining Co. and the Caddo Crude Oil Purchasing Corp. Caddo led the way by announcing a new price schedule effective Aug. 1 that began at 56 cents a barrel for 27 to 27.9 gravity oil and increased two cents for each degree of gravity to 72 cents for 35 gravity and above. The price adjustment, according to a Caddo announcement, was necessary in view of a marked decline in gravity of Lisbon oil. Formerly it had tested 34 and 35 gravity for which the company had paid 73 and 75 cents. Crude now tests only 31 to 33 gravity. Gulf announced its reduced prices, similar to those posted by Caddo, would take effect Aug. 2.

Kansas Corporation Commission's August allowable was delayed pending further discussion of rules and regulations governing production under the state's new proration law.

On Aug. 29 the Oklahoma Corporation Commission will take testimony from which its September crude production order will be written. The commission has been unsuccessful in holding the state's output to its 428,000-barrel allowable and it was believed that the 15-month old allowable of 428,000 bbls. daily might be pared down in an effort to bring production more nearly in line with purchasers' nominations.

Hold Up Retrial Of Madison Case

WASHINGTON, Aug. 8.—U. S. Justice Department officials said today the retrial of those defendants in the "first" Madison oil case who were granted new trials by Judge Patrick T. Stone of the trial court probably will be held up pending U. S. Supreme Court's decision as to the 17 defendants granted new trials by the Circuit Court of Appeals at Chicago. The retrials granted by Judge Stone were scheduled for late this year.

It was indicated further that the Oct. 2 trial date in the Socony-Vacuum, or "second" Madison case would probably be postponed pending the Supreme Court's decision in the first case.

A petition to the Supreme court appealing the Chicago reversal decision is being drafted at the justice department and probably will be filed next month.

The federal grand jury now sitting at Danville, Ill., will hear about three or four days more of the government's presentation in that case before its term expires in September, it was said at the department today.

May Gasoline Consumption 10.36% Ahead of May, 1938

NEW YORK, Aug. 4.—Gasoline consumption increased in every state in May and in the five months ended with May, from the corresponding period of last year, according to returns made by wholesalers and dealers under the state gasoline tax laws, the American Petroleum Institute reports.

Consumption the first five months totaled 8,547,090,000 gallons, an increase of 449,372,000 gallons, or 5.55 per cent, over the first five months of last year. This compares with an increase of 1.71 per cent in the first five months of 1938 from the corresponding period of the previous year. In the first five months of 1938, nine states reported decreases. In May of last year, 30 states reported decreases from May, 1937.

The high increases in May this year, when 21 states reported gains of 10 per cent or more, brought the national average increase in gasoline consumption up to 5.55 per cent for the five months. In the five months, increases ranged from 0.59 per cent in North Dakota to 23.80 per cent in Nevada, with 32 states showing gains of five per cent or more. The 17 states reporting increases less than five per cent were well scattered over the country.

In May, consumption was 2,041,924,000 gallons, compared with 1,850,252,000 gallons in May a year ago, an increase of 191,672,000 gallons, or 10.36 per cent. Increases ranged from 0.46 per cent in Louisiana to 23.57 per cent in Nevada, with 21 states reporting increases of 10 per cent or more from May a year ago, and seven states 15 per cent or more. Daily average consumption was 6,183,000 gallons ahead of May, 1938.

To Increase D. C. Tax

WASHINGTON, Aug. 7.—Rep. Jennings Randolph, West Virginia, chairman of the House District of Columbia Committee, introduced a bill (H.R. 7526) to increase the D.C. gasoline tax from 2 cents to 3 cents per gallon. This proposal will await the next session of Congress.

DEATHS

So widespred is the oil industry that many friends are separated for years. NPN would like friends and relatives of any deceased oil man to send in notice of his passing for publication.

Mrs. Mary J. Foster

Mrs. Mary J. Foster, wife of Dewey Foster, former Michigan refiner and now president of the Wisconsin Oil Refining Co., died Aug. 2 in the hospital at Alma, Mich. Interment was at Bowling Green, Ky. Remaining are Mr. Foster and two children, Robert and Alice.

* * *

Arthur W. Sewall

Arthur W. Sewall, 78, for 24 years president of the General Asphalt Corp., now the Barber Asphalt Corp., died Aug. 1 at his summer home at Jaffrey, N. H., after several months' illness.

He retired from active participation in business in 1936, but retained his position as director of the Federal Reserve Bank, third district, of his own company and of several other corporations.

Aircraft Display at SAE Meet

NEW YORK, Aug. 8.—An aircraft engineering display will be a new feature of the Society of Automotive Engineers national aircraft production meeting, at Los Angeles, Oct. 5, 6 and 7, according to John A. C. Warner, secretary and general manager.

"Gas" Stocks Decline 1,500,000 Barrels

NEW YORK, Aug. 8.—With gasoline consumption hitting its full stride, stocks were reduced by nearly 1,500,000 barrels the week ended Aug. 5. They totaled 71,336,000 barrels that date, a decrease of 1,431,000 barrels from July 29, according to the American Petroleum Institute's weekly survey of U. S. refinery operations.

Gasoline production was stepped up 242,000 barrels totaling 10,303,000 barrels daily the past week, while crude runs to refinery stills were 17,000 barrels lower daily average than the previous week.

Two districts indicated sizable decreases in crude runs; Indiana-Illinois-Kentucky reduced 51,000 barrels, California reduced 21,000 barrels on daily average. East Coast refineries increased their runs by 25,000 barrels.

California refiners made 138,000 barrels more gasoline, however, the past week. Texas Gulf refiners increased their gasoline output 64,000 barrels, Oklahoma-Kansas-Missouri increased 121,000 barrels, and East Coast, 50,000 barrels for the week.

The largest decrease in gasoline stocks was in the Texas Gulf district, where a reduction of 689,000 barrels was reported. Other sizable declines reported were: East Coast, 276,000 barrels; Indiana-Illinois-Kentucky, 348,000 barrels; and California, 214,000 barrels.

Domestic Stocks Up

N. P. N. News Bureau

WASHINGTON, Aug. 7.—Crude stocks increased 66,000 barrels during the week ended July 29, U. S. Bureau of Mines reports, totaling 268,513,000 barrels on that date, compared with 268,447,000 barrels on July 22.

The gain in domestic crude stocks, however, was much greater than the 66,000-barrel gain would indicate, as a 403,000-barrel increase in domestic stocks was offset by a decline of 337,000 barrels in foreign stocks. Stocks on July 30 a year ago were 288,514,000 barrels. Stocks by grade or origin are shown in table on next page.

Gasoline Consumption by States, May and First Five Months, 1939

(Figures in Thousands of Gallons)

	Month of—			% Chge	5 Months Ending With		% Chge.
	Apr., 1939 Gallons	May, 1939 Gallons	May, 1938 Gallons	1939 over 1938	May, 1939 Gallons	May, 1938 Gallons	1939 over 1938
Alabama	19,945	20,945	18,803	+11.39	96,663	90,916	+ 6.32
Arizona	8,757	9,207	8,453	+ 8.92	42,613	41,861	+ 1.80
Arkansas	13,466	14,908	13,435	+10.96	68,148	62,753	+ 8.60
California	148,884	158,941	145,900	+ 8.94	713,149	690,719	+ 3.25
Colorado	18,677	22,494	19,567	+14.96	87,941	83,103	+ 5.82
Connecticut	26,253	30,745	28,495	+ 7.90	124,465	120,228	+ 3.52
Delaware	4,583	5,436	4,963	+ 9.53	21,710	20,687	+ 4.95
District of Columbia	12,452	13,213	12,033	+ 9.81	58,594	55,113	+ 6.32
Florida	30,709	28,609	26,238	+ 9.04	163,963	153,764	+ 6.63
Georgia	30,329	29,963	27,491	+ 8.99	144,753	134,727	+ 7.44
Idaho	8,258	8,878	8,356	+ 6.25	33,662	32,168	+ 4.64
Illinois	112,625	137,357	119,021	+15.41	535,109	500,353	+ 6.95
Indiana	53,148	66,315	58,368	+13.62	256,978	242,865	+ 5.81
Iowa	48,337	58,166	49,811	+16.77	213,505	200,417	+ 6.53
Kansas	36,708	43,522	38,988	+11.63	179,338	169,531	+ 5.78
Kentucky	21,549	23,509	21,516	+ 9.26	104,732	96,895	+ 8.09
Louisiana	19,257	20,462	20,369	+ 0.46	95,832	96,403	+ 0.59
Maine	9,042	13,451	12,697	+ 5.94	47,885	46,918	+ 2.06
Maryland	22,986	26,166	23,120	+13.17	109,765	103,590	+ 5.96
Massachusetts	54,008	64,735	60,089	+ 7.73	263,022	249,071	+ 5.60
Michigan	88,767	105,089	92,169	+14.02	423,519	391,103	+ 8.29
Minnesota	42,391	53,492	44,450	+20.34	194,034	188,310	+ 3.04
Mississippi	16,465	18,261	17,195	+ 6.20	79,801	75,723	+ 5.39
Missouri	50,166	58,781	50,894	+15.50	248,762	231,299	+ 7.55
Montana	10,955	11,321	10,578	+ 7.02	43,033	40,367	+ 6.60
Nebraska	18,446	20,994	18,951	+10.78	89,138	83,749	+ 6.43
Nevada	3,716	3,985	3,225	+23.57	16,119	13,020	+23.80
New Hampshire	5,821	7,745	7,227	+ 7.17	30,358	28,406	+ 6.87
New Jersey	68,242	77,245	74,265	+ 4.01	324,956	315,319	+ 3.06
New Mexico	7,099	8,561	7,513	+13.95	35,613	34,244	+ 4.00
New York	147,773	174,431	160,424	+ 8.73	695,899	660,954	+ 5.29
North Carolina	35,772	34,491	32,099	+ 7.45	167,132	154,023	+ 8.51
North Dakota	13,824	13,428	11,126	+20.69	45,702	45,434	+ 0.59
Ohio	107,952	124,991	113,376	+10.24	520,577	494,629	+ 5.25
Oklahoma	32,752	36,374	33,406	+ 8.88	161,392	151,462	+ 6.56
Oregon	20,240	21,627	20,907	+ 3.44	89,033	83,858	+ 6.17
Pennsylvania	115,910	132,217	121,864	+ 8.50	550,787	525,811	+ 4.75
Rhode Island	10,401	11,300	10,572	+ 6.89	47,850	44,197	+ 8.27
South Carolina	18,201	17,781	15,799	+12.55	84,978	77,586	+ 9.53
South Dakota	12,224	12,937	10,792	+19.88	49,168	46,706	+ 5.27
Tennessee	25,141	26,451	25,481	+ 3.81	117,790	113,797	+ 3.51
Texas	106,943	116,676	107,832	+ 8.20	531,454	503,018	+ 5.65
Utah	7,650	8,587	7,570	+13.43	35,656	33,289	+ 7.11
Vermont	3,960	5,817	5,595	+ 3.97	22,034	21,206	+ 3.90
Virginia	33,477	31,688	29,126	+ 8.80	145,893	134,735	+ 8.28
Washington	29,462	31,405	29,540	+ 8.31	131,271	125,350	+ 4.72
West Virginia	15,133	17,538	16,479	+ 6.43	75,057	72,587	+ 3.40
Wisconsin	42,670	56,099	49,018	+12.38	204,523	194,905	+ 4.93
Wyoming	4,816	5,590	5,066	+10.34	23,734	20,549	+15.50
Total	1,796,342	2,041,924	1,850,252	+10.36	8,547,090	8,097,718	+ 5.55
Daily Average	59,878	65,869	59,686	+10.36	56,603	53,627	+ 5.55
Change from previous year:							
Total change		+191,672			+449,372		
Percentage change in Daily Av.		+10 36%			+5.55%		

Latest Oil Industry Statistics

Trends of Basic Figures

	Aug. 5, 1939	July 29, 1939	Aug. 5, 1938
Crude Production (Bbls. daily)	3,909,400	3,539,100	3,317,850
Crude Imports (Bbls. daily)	110,000	95,000	34,860
Crude Runs to Stills (Bbls. daily)	3,445,000	3,460,000	3,269,000
Gasoline Stocks (Bbls. total)	76,431,000	77,887,000	75,801,000
Gas Oil & Distillate Stocks (Bbls. total)	35,601,000	34,900,000	.....
Residual Fuel Oil Stocks (Bbls. total)	114,512,000	114,053,000	.....

Crude Oil Production for the U. S.

(American Petroleum Institute Figures)

	Week Ended Aug. 5 Barrels	July 29 Barrels	July 22 Barrels
Oklahoma	412,900	420,400	466,400
Kansas	176,000	179,400	178,100
Texas	1,743,500	1,359,700	1,343,300
Louisiana	275,000	275,600	275,850
Arkansas	63,400	62,950	62,550
Illinois	279,500	276,300	283,150
Eastern (Ill. excluded)	97,500	97,650	94,600
Michigan	67,850	68,150	68,250
Wyoming	61,700	66,150	67,650
Montana	16,550	16,200	16,200
Colorado	4,000	3,850	3,900
New Mexico	109,100	109,150	109,700
California	602,400	603,600	614,100
Total U. S.	3,909,400	3,539,100	3,583,705
Crude Imports	110,000	95,000	89,140
Total New Supply	4,019,400	3,634,100	3,672,845

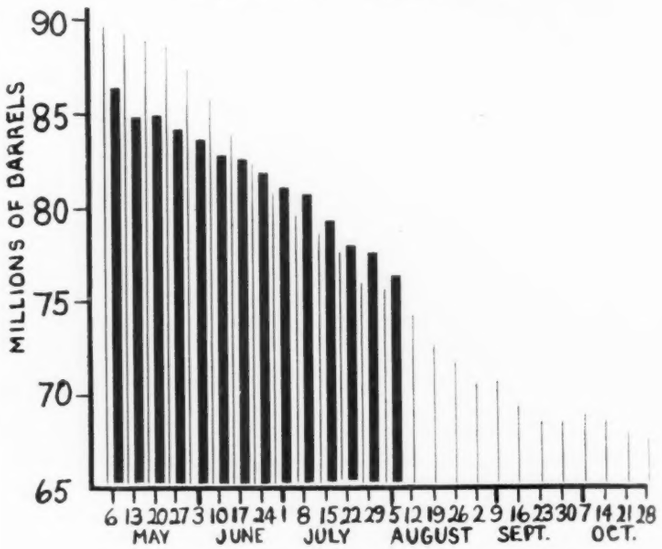
Weekly Changes in U. S. Crude Oil Stocks

(Thousands of barrels)

Grade or origin	July 15	July 22	July 29	Change from July 22
Pennsylvania Grade	5,722	5,757	5,682	— 75
Other Appalachian	1,132	1,164	1,202	+ 38
Lima-Michigan	1,907	1,937	1,917	— 20
Illinois-Indiana	14,326	14,435	14,469	+ 34
Arkansas	3,393	3,519	3,530	+ 11
Kansas	6,434	6,248	6,138	—110
Louisiana	13,744	13,691	13,455	—236
Northern	5,822	5,764	5,647	—117
Gulf Coast	7,922	7,927	7,808	—119
New Mexico	5,883	5,979	5,576	—403
Oklahoma	69,784	69,859	70,049	+190
Texas:	85,377	85,440	85,964	+524
East Texas	19,915	19,084	19,210	+126
West Texas	15,064	15,952	16,507	+555
Gulf Coast	21,065	21,693	21,859	+166
Other Texas	29,333	28,711	28,388	—323
Rocky Mountain	19,243	19,261	19,212	— 49
California	38,149	38,313	38,812	+499
Foreign	3,025	2,844	2,507	—337
Total U. S. refinable	268,119	268,447	268,513	+ 66
Heavy in California	14,167	14,091	14,316	+225

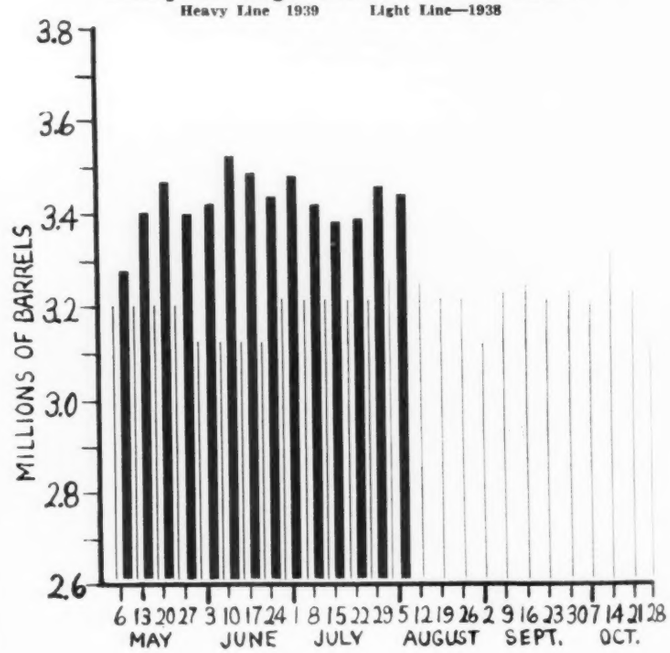
Total U. S. Motor Fuel Stocks

Heavy Line—1939 Light Line—1938



Daily Average Crude Runs to Stills

Heavy Line 1939 Light Line—1938



A. P. I. Weekly Refinery Report

(Figures in Thousands of Barrels of 42 Gallons Each)

Districts	Daily Average Crude to Stills Week Ended Aug. 5	July 29	Per Cent of Reporting Capacity Operated Week Ended Aug. 5	July 29	(a) Gasoline Production Week Ended Aug. 5	July 29	Stocks Total Finished & Unfinished Motor Fuel (b) Week Ended Aug. 5	July 29	Stocks of Gas Oil & Distillates At Refineries Week Ended Aug. 5	July 29	At Terms. Trans. Pipelines Week Ended Aug. 5	July 29	Stocks of Residual Fuel Oil At Refineries Week Ended Aug. 5	July 29	At Terms. Trans. Pipelines Week Ended Aug. 5	July 29
East Coast	588	563	95 6	91 5	1,643	1,693	20,368	20,644	5,676	5,388	5,803	5,885	5,387	5,171	3,969	4,008
Appalachian	112	116	87 5	90 6	413	437	3,337	3,299	250	234	62	60	422	420		
Ind., Ill., Ky	434	485	84 4	94 4	1,886	1,920	12,077	12,425	3,489	3,371	736	687	2,843	2,768	39	43
Okla., Kans., Mo	259	255	75 7	74 6	(c)988	(c)867	6,540	6,571	1,559	1,525	48	51	2,848	2,826		
Inland Texas	128	125	80 5	78 6	531	558	1,665	1,630	371	357			1,850	1,851		
Texas Gulf	853	843	95 3	94 2	2,684	2,260	8,964	9,653	4,815	4,595	347	351	6,528	6,730	280	290
La., Gulf	144	136	99 3	93 8	340	353	2,296	2,183	1,203	1,221	24	24	1,447	1,501	265	265
No. La., Ark	45	42	81 8	76 4	131	101	525	523	278	268	10	12	634	617		
Rocky Mt	50	44	78 1	68 8	196	159	1,242	1,303	102	98			571	582		
California	484	505	65 0	67 8	1,491	1,353	14,322	14,536	8,214	8,251	1,844	1,757	61,517	61,386	23,532	23,280
Total Reporting	3,097	3,114	84 6	85 0	10,303	10,061	71,336	72,767	25,957	25,308	8,874	8,827	84,047	83,852	28,085	27,826
U. S. Total (d)	3,445	3,460			11,708	11,433	76,431	77,887	(e)26,727	(e)26,073	8,874	8,827	(e)86,427	(e)86,227	28,085	27,826
U. S. Total 8-5-38 (d)	3,269	3,221			10,886	10,750	75,801	76,977	26,978	26,496			117,170	116,758		

(a) Includes straight-run, cracked and natural blended.
(b) Includes stocks at refineries, in bulk-terminals, pipe lines and in transit.
(c) 12% of reporting capacity in this district did not report gasoline production.
(d) Estimated, U. S. Bureau of Mines basis.
(e) For comparability with last year these figures must be increased by stocks "At Terminals, etc." in California district.

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

Dear Reader:

Have you ever stopped to make a horseback estimate of the cost to the oil industry—or to your own particular company—of the continuously increasing octane rating of commercial grades of gasoline?

The next time reports from the field seem to indicate that a few more octanes in the gasoline are necessary to meet the competition would be a good time to sharpen a pencil or get out the slide rule and make the calculations. Obviously the answers you get would not satisfy a Certified Public Accountant. The problem has too many variables for you to arrive at a figure which is perfectly provable.

Some changes in refining processing in recent years have increased yields and octane ratings of finished products at the same time. In such an operation, polymerization being an outstanding example, it can be argued that the added octane rating costs nothing.

Generally speaking, however, it does cost money to improve the quality of gasoline from an anti-knock standpoint. Where reforming is necessary it is obvious that the cost must be assessed against knock rating. The cost of tetraethyl lead must be charged on the books against octane rating.

Still venturing to speak generally and hence without perfect accuracy, the higher the octane number of the product which it is proposed to improve, the greater the cost of each added octane number. It costs less to raise a gasoline from 60 to 62 octane than it does from 70 to 72 or from 78 to 80.

★ ★ ★

A few days ago the semi-annual motor fuel survey of the U. S. Bureau of Mines and the Co-operative Fuel Research Committee was published giving octane ratings of gasoline sold commercially in 21 areas in the country. The survey shows that last winter the average octane number of premium gasoline was 78.8, or regular gasoline 71.1 and of third grade 61.4.

Premium gasoline was up 0.6 octane number in a year, regular gasoline was up 0.3 octane number and third grade gasoline was up 1.2 octane numbers. In the middle west the average third grade gasoline in six areas rose 3.2 octane numbers in this one year. In the past three years premium gasoline has risen 2.1 octane numbers from 76.7 to 78.8; regular gasoline has risen 1.5 octane numbers from 69.6 to 71.1; and third grade gasoline has risen 3.5 octane numbers from 57.9 to 61.4.

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Let's make some rough calculations as to the cost to the industry of the increases in octane ratings made last year: At the outset suppose we take 21 billion gallons as the volume affected. Assume that 5 per cent or 1,050,000,000 gallons is premium gasoline, 80 per cent or 16,800,000,000 gallons is regular gasoline and 15 per cent or 3,150,000,000 gallons is third grade gasoline.

Pick out your own estimate of the cost factor to apply against these gallonage figures. For our estimate here we suggest a cost of 0.03 cent to raise a gallon of third grade gasoline one octane number; a cost of 0.05 cent to raise a gallon of regular gasoline one octane number; and a cost of 0.10 cent to raise a gallon of premium gasoline one octane number. These are averages given us by several refiners and are slightly higher than national averages for lead alone.

If you accept these cost figures as being somewhere near the average we find that the industry has increased its cost of premium gasoline $2,200,000 in the past three years. The increase last year over the previous year was $630,000.

The manufacturing cost of regular gasoline was increased $12,600,000 in the past three years. Last year alone the cost was $2,500,000 more than in the previous year for octane number improvement, all other factors being ignored.

At a cost of 0.03 cent per octane number per gallon it may be estimated that refiners increased their cost $1,100,000 last year by increasing the anti-knock quality of third grade gasoline. Compared with three years ago the present annual cost of third grade is higher by about $3,300,000 from the knock rating standpoint.

Continuing our arithmetic we get an added cost of manufacturing gasoline last year of $4,200,000 and it looks like the annual cost of making gasoline today as compared with three years ago is something like $18,000,000 higher, octane rating alone being considered.

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This added cost has come at a time when the industry needed the money in its own pockets. The N.P.N. refinery index on the first of January, 1936, showed that the Mid-Continent refiner had a margin between the cost of crude at the well and the selling price of all products of 62.5 cents per barrel. The first of January this year the index stood at 34.7 cents. On July 1, 1936, the margin was 61.2 cents and on July 1 this year the margin was 52.2 cents.

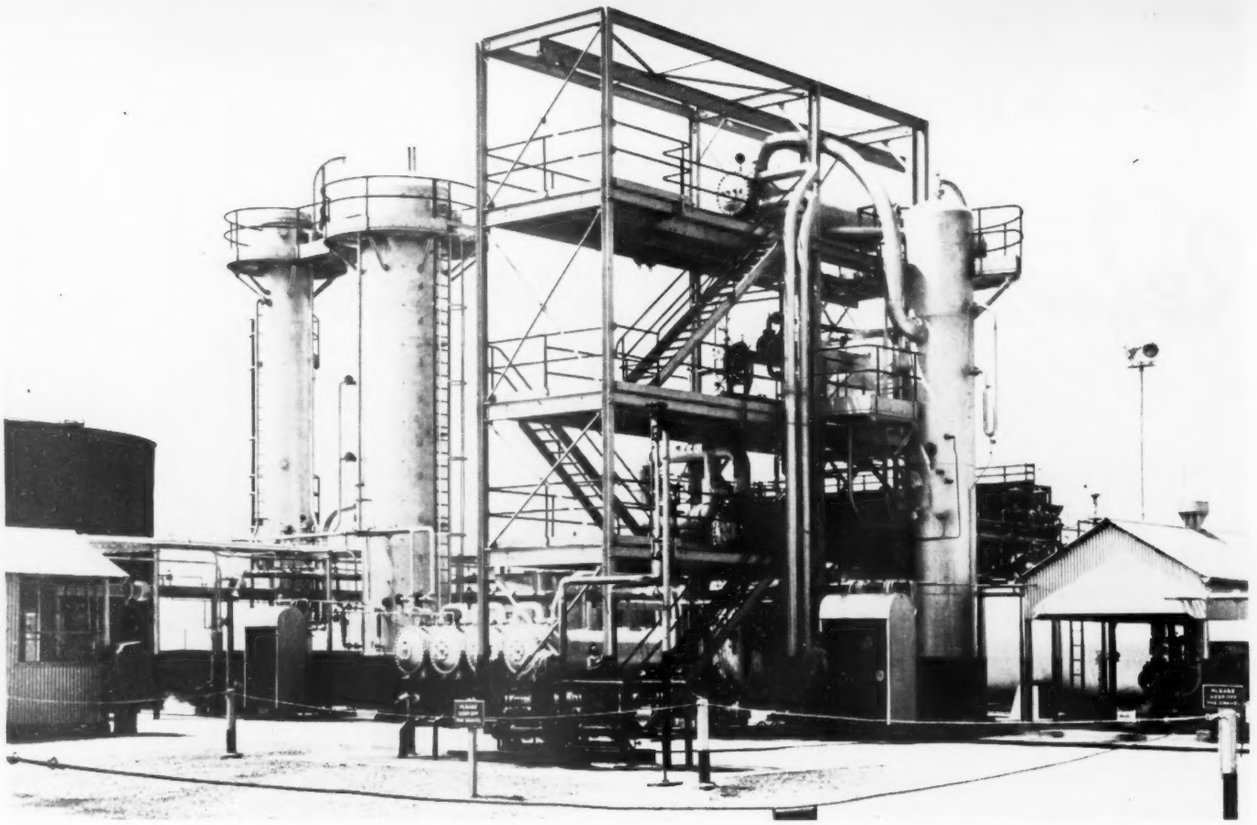
One difficulty of the refiner, of course, is that most cars built during the past three years will make good use of today's gasoline if the timing is adjusted properly, while millions of older cars cannot take advantage of the added quality.

It seems fair to inquire whether octane rating is being used today as a competitive selling weapon without increasing the selling price in line with added costs. The refining industry must keep abreast of the motor car but it should make an adequate profit while doing it. The job of the research worker and refinery operator is to try to make better products for less money and the job of the seller is to get a price which will yield a fair profit on today's costs.

Very truly,

J. C. Chatfield

Managing Editor,
Refining Technology Edition.



Courtesy Shell Development Co.

A large tri-potassium phosphate unit for simultaneous treatment of two refinery gages of different compositions, having a single regeneration section. The combined capacity of the two absorbers (left) is 13,000,000 cu. ft. per day

Hydrogen Sulfide Removed By Tri-Potassium Phosphate

By H. N. LaCroix and L. J. Coulthurst *

ABSTRACT

Hydrogen sulfide removal from gaseous or liquid hydrocarbons is accomplished by contact with aqueous solutions of tri-potassium phosphate. Reactions are similar to the caustic soda process but differ radically in that complete and continuous regeneration of solution is accomplished with negligible loss of solution. Elemental sulfur or sulfuric acid may be recovered in the process when treating large volumes of hydrocarbons having high hydrogen sulfide content.

An appreciable advantage in preparing gases for polymerization is that treatment may take place at temperatures up to 200° F. The great affinity and capacity of tri-potassium phosphate for hydrogen sulfide is shown by the fact that a 31.8% solution will contain 3000 times as much H_2S as a mixture of liquid propane and butane in equilibrium with it.

Process control is simple and operations may be automatic. There are no corrosion problems so that materials are inexpensive. Treated gas will have a hydrogen sulfide content as low as 5 to 10 grains per 100 cubic feet.

IT HAS long been recognized that hydrogen sulfide is undesirable in petroleum refining processes and the same objections exist in the chemical industry as a whole. Removal of the hydrogen sulfide is of the utmost importance to refiners and chemical manufacturers, as well as to consumers of the finished products. With the development of new methods for marketing and utilizing the lighter components of crude oils, the removal of H_2S assumes even greater importance to the refiner.

Among the detrimental effects are loss of product, reduction in process efficiency, and high maintenance costs due to corrosion of equipment. These apply particularly when hydrogen sulfide is present in charge stocks to polymerization plants, alkylation units, and in the production of iso-octane, hydrogen, aliphatic alcohols, various organic chemicals and liquefied propane and butane, also in natural gas, whether for domestic or industrial consumption. The hydrogen sulfide forms mercaptans, organic sulfides, and other sulfur compounds with the hydrocarbons, or deleterious reaction products with some catalysts or treating agents, in addition to having unpleasant odor and poisonous influence upon the human system. Sulfur compounds in the final products are dif-

*Design Engineers—Foster Wheeler Corp.

ficult and expensive to remove by after treatment; consequently prior treatment of both liquids and gases is generally preferable. Even if the sulfur compounds are subsequently treated, the quality of the final product may be impaired, as for example, by reducing the octane rating or blending value of motor fuel.

Hydrogen sulfide may be removed by a number of methods and caustic soda wash is the simplest and probably the oldest. This method is effective, but for every pound of H_2S removed, 1.2 pounds of caustic soda is used. The soda is irretrievably lost and the cost of operating the process is high. H_2S may be removed readily, however, from gaseous or liquid hydrocarbons by means of an easy, regenerative process developed by the Shell Development Co.† This process is based on the intimate contact with aqueous solutions of a simple, single compound, *tri-potassium phosphate.*

The tri-potassium phosphate method of H_2S removal acts in a manner similar to that of caustic soda since the solution acts as an alkali to hydrogen sulfide in absorbing it from its gas or liquid hydrocarbon carrier. The new process differs radically from the caustic soda method, however, in that, after absorbing the H_2S, the solution will readily reverse its characteristics and expel the H_2S when heated to the boiling point. This permits the absorbing chemical to be reactivated continuously, thus restoring it to its original form and capacity for hydrogen sulfide absorption.

Fundamentals of the Process

The tri-potassium phosphate process for hydrogen sulfide removal from hydrocarbon gases and liquids is a continuous regenerative process based on absorption of H_2S to form compounds which may later be broken down by heating to a temperature slightly higher than the boiling point of water. Only cooling water and steam, or some other heating medium, are required for its operation beyond the initial charge of phosphate.

When treating large volume of hydrocarbons having high hydrogen sulfide content, it is possible to recover the sulfur economically, either by conversion into elemental sulfur or sulfuric acid, or as hydrogen sulfide, essentially free of hydrocarbons or mercaptans. If the hydrogen sulfide has no value as such, it may be burned.

The absorption reaction is reversible and may be expressed as follows:

$$H_2S + K_3PO_4 \rightleftarrows KSH + K_2HPO_4$$

The direction of the reaction is controlled by temperature while the driving power of the reaction depends upon the ratio of tri-potassium phosphate to potassium acid sulfide.

The treating medium (tri-potassium phosphate) is a stable inorganic salt solution having a specific gravity varying between 1.2 and 1.5. Basic ingredients for its manufacture are common caustic potash and phosphoric acid, both of average commercial purity and readily available at reasonable cost. They are used at a ratio of approximately three mols of KOH per mol of H_3PO_4. The solution is easily made and handled, and is not poisonous, volatile, corrosive or inflammable.

The concentration of the treating solution for use in this process depends on:

1. The H_2S content of the liquid or gas to be treated.
2. Desired purity of the product after treatment.
3. Treating pressure.
4. Treating temperature.

Gases have been handled with H_2S content as high as 3000 grains per 100 cu. ft. and the gases after treatment contained as little as 15 grains per 100 cu. ft. Even lower H_2S content may be obtained if desired. Treatment may be at whatever pressure the gas or liquid is flowing. The use of tri-potassium phosphate permits treatment of gases at temperatures up to 200° F. — an appreciable advantage in preparing gases for polymerization.

A concentrated treating solution will retain more hydrogen sulfide per unit of volume than a dilute solution,

†U. S. Patent Numbers 1,945,163, 2,110,403, 2,157,879.

Contents...

REFINING TECHNOLOGY

August 9, 1939

From complete loss of spent treating solution in the caustic soda wash process for removal of hydrogen sulfide from hydrocarbon liquids and gases, to total recovery and unlimited reuse of treating solution are results in changing to the tri-potassium phosphate process. The process has no corrosion problem, costs of construction and operation are low, sulfur or sulfuric acid may be recovered in some instances, and there are other advantages, the authors declare R-326

Practical length of service of crankcase oils has been studied in relationship to the changes in color density of the oil. Corrosion and sludging tendencies have been determined by measuring temperature at which acid vapors are given off by the oil. This gives a further guide to oil service R-334

New producing methods have improved stability of dispersion of colloidal graphite in low viscosity liquids enabling graphite to be used more readily in penetrating oils and in non-petroleum bases such as glycerine and water for rubber lubricants. Other special lubricants for high temperature and steam applications are discussed R-340

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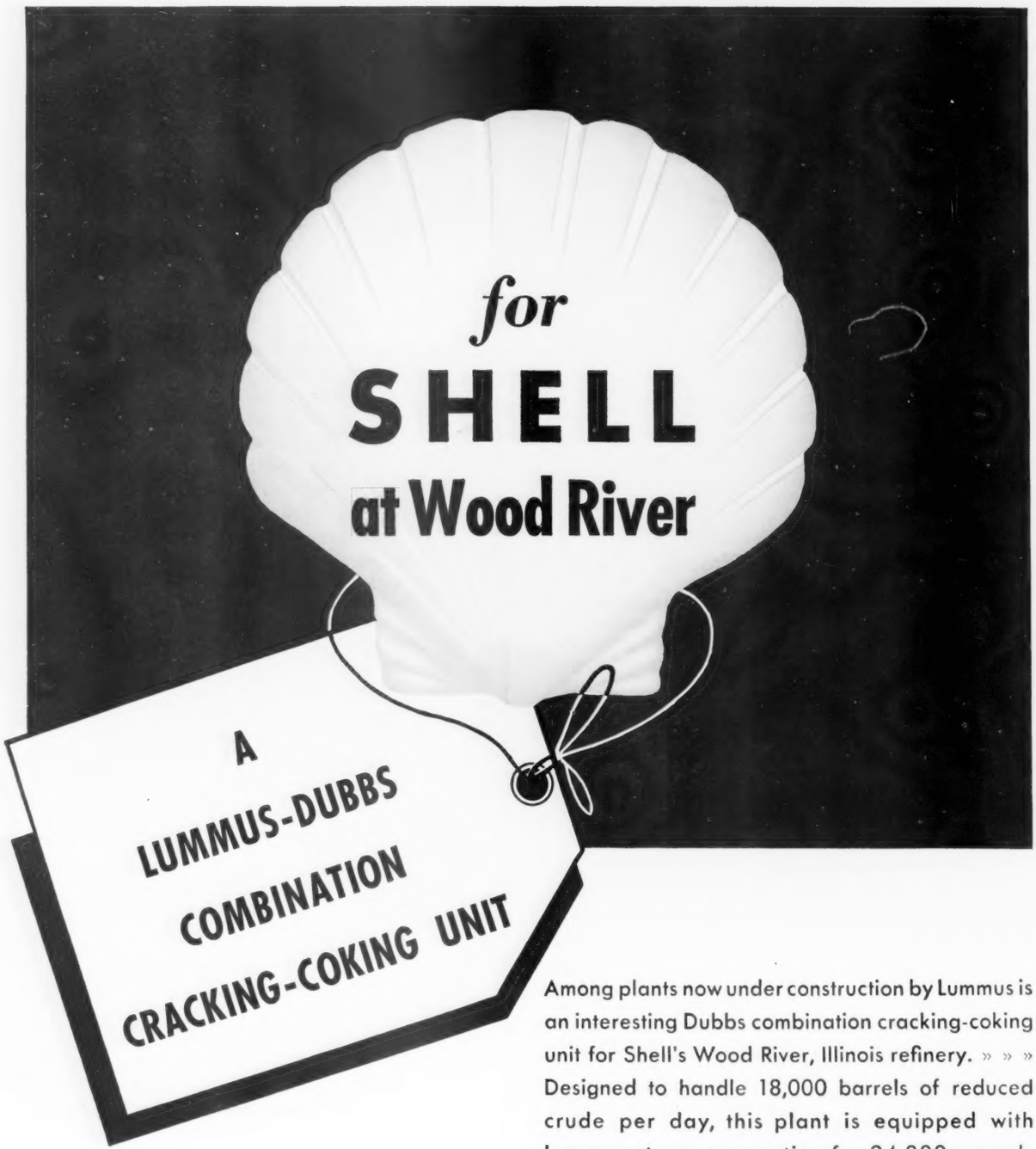

Among plants now under construction by Lummus is an interesting Dubbs combination cracking-coking unit for Shell's Wood River, Illinois refinery. » » » Designed to handle 18,000 barrels of reduced crude per day, this plant is equipped with Lummus steam generation for 24,000 pounds per hour of 170 pound 100° superheat steam.

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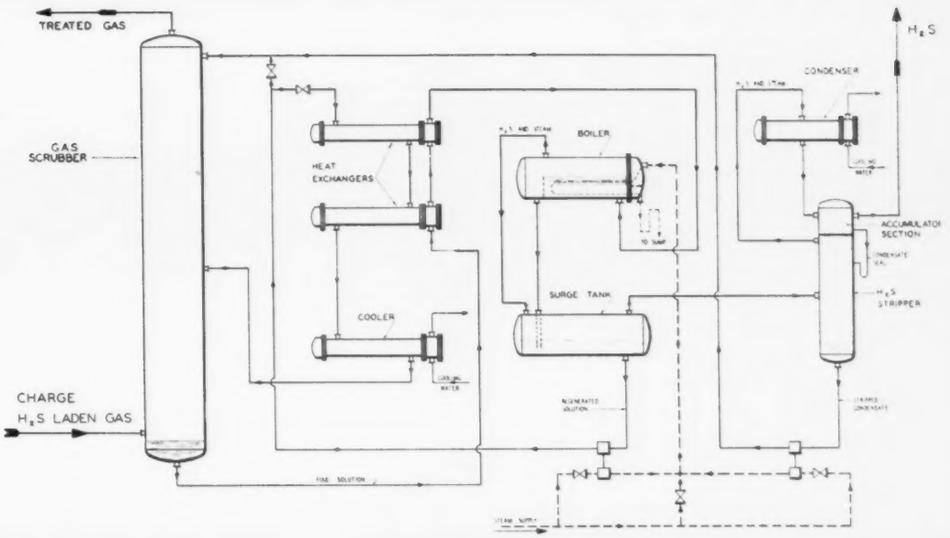

Fig. 1. Flow diagram of a tri-potassium phosphate process for removal of hydrogen sulfide from gas. Gases are first contacted in the lower part of scrubber tower with strong solution entering the center of the tower and then with a weak solution entering the top of the tower

but a dilute solution is capable of a more complete stripping from the fluid treated since it has a greater affinity for the H_2S. This characteristic is utilized to complete the stripping of the hydrocarbon gas just before it leaves the unit by contact with dilute treating solution after an initial contact with stronger solution. These solutions of K_3PO_4 normally range in concentration from 1.0 to 2.0 molal.

3000 Times as Much H_2S

To illustrate the great affinity and capacity of tri-potassium phosphate treating solution for hydrogen sulfide, a 31.8% by weight phosphate solution (about 1.5 molal) will contain over 3000 times as much H_2S as a mixture of liquid propane and butane in equilibrium with it, and after treatment, the propane-butane product at equilibrium contains only about 0.0006% by weight of H_2S.

Hydrogen sulfide may be satisfactorily removed from gases with tri-potassium phosphate over a wide temperature range up to 200° F. Furthermore, the treating medium has a negligible solution effect for hydrocarbons, since an aqueous inorganic salt solution is used. These characteristics of the progress present distinct advantages in that, (1) entrainment of liquefied hydrocarbons with the treating solhtion may be prevented, and, (2) gas cooling requirements prior to treating may be reduced and possibly eliminated.

Control of the process is simple and plant operations may be made fully automatic, depending only on occasional specific gravity determinations of the phosphate solution, and Tutweiler or Orsat determinations of hydrogen sulfide in the outgoing product to obtain the desired control settings. Since it is only necessary to maintain the specific gravity of the phosphate solution, the operation of the process is independent of any special component ratios, acid-alkali balance or hydrogen ion concentration. There are no volatile components to pollute the purified gas or liquid products, and no deleterious side reactions take place.

Experience in plant operation has shown that there are no equipment corrosion problems. The materials of construction, therefore, are simple and inexpensive; cast iron and low carbon steel are used throughout and no special alloys are necessary. Standard heat exchanger and condenser practice is followed and either reciprocating or centrifugal pumps may be used. Overall maintenance costs are practically negligible.

Description of the Process

Diagrammatic flow sheets of the hydrogen sulfide removal processes, one for treating gases and the other for treating liquids, are shown in Figures 1 and 2 respectively, and described as follows.

In brief, gases bearing hydrogen sulfide are exposed to intimate contact in a scrubber tower first with a strong tri-potassium phosphate solution and then with a weak solution, in order to produce a treated gas that is relatively free of hydrogen sulfide. After absorbing H_2S, the foul solution is regenerated by boiling, which reverses the chemical reaction, dispels the H_2S, and restores the treating solution for recirculation. The heating evolves hydrogen sulfide vapor and evaporates water. These combined vapors are then separated in a stripper; hydrogen sulfide is vented at the top and water collected at the bottom. This water is returned to the top of the scrubber to be used again in making up the weak treating solution.

In detail, gaseous charge stock containing hydrogen sulfide enters near the bottom of a scrubber, filled either with a system of bubble trays or with tower packing. As the

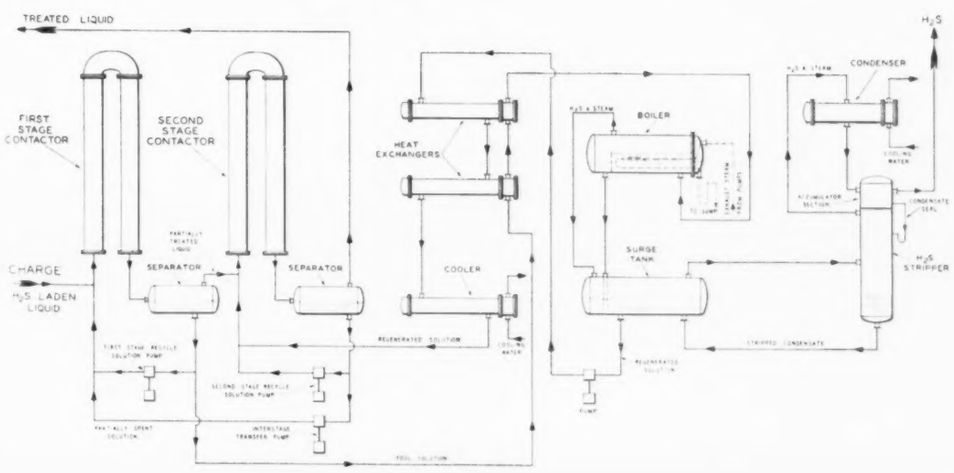

Fig. 2. Flow diagram of a tri-potassium phosphate process for liquid products. Although a two-stage process, H_2S removal from liquids is easier because the distribution factor for H_2S is three times more favorable and contact is better

gases rise, they receive a series of contacts with aqueous, tri-potassium phosphate solutions of two strengths; first, with a strong concentration having high capacity for H_2S, in the lower half of the tower, and then with a dilute solution having high affinity for H_2S, in the upper portion of the tower. In this manner, the hydrogen sulfide content of the treated gas is reduced to a minimum before it leaves at the top of the scrubber, substantially free of hydrogen sulfide and ready for any further processing.

The weak tri-potassium phosphate solution, introduced at the top of the scrubber, flows downward through the upper half of the tower, countercurrent to the gas under treatment. Stronger solution, which is introduced near the middle of the tower joins the weak solution and the combined streams flow downward, absorbing H_2S at a rapid rate. A reservoir for foul solution is located in the base of the scrubber. All of the hydrogen sulfide extracted from the gas is contained in the foul solution, in the form of potassium acid sulfide, and the solution flows continuously to the regeneration section, generally under absorber pressure.

Regeneration Section

Foul solution from the base of the gas scrubber is conducted through a series of heat exchangers in which the desired preheat is obtained from the hot regenerated treating solution, and is then ready to be regenerated. Regeneration is accomplished simply and quickly by holding the solution at the boiling point a short time until the reversal of the absorption reaction has taken place. A simple kettle-type reboiler is all that is required for this purpose. The boiling takes place normally at temperatures in the vicinity of 225° to 240° F., and, hence, exhaust steam from the pumps may be used as a source of heat. The chemical reaction is reversed and the solution restored to its original components, ready for recirculation. Hydrogen sulfide, saturated with steam, is evolved within the boiler, conducted to a surge tank, and ultimately piped into the hydrogen sulfide stripper. There remains a strong, regeneration solution of tri-potassium phosphate, concentrated in proportion to the amount of water boiled off.

At the rear of the boiler the regenerated treating solution spills over a weir into a sump from which it flows by gravity into the surge tank. The concentrated fresh treating solution is continuously withdrawn by means of a pump and most, or all of it is passed through heat exchangers where its heat is used to preheat the cooler spent solution. This results in economy of cooling water and heating steam. The regenerated solution may be further cooled if necessary, to the desired treating temperature in a shell-and-tube cooler, employing water as a cooling medium. The solution is then introduced directly at the mid-section of the gas scrubber. A small portion of the hot regenerated solution from the surge tank is blended in a mixing valve with stripped condensate and introduced into the top section of the gas scrubber to maintain the desired concentration of weak tri-potassium phosphate solution.

In order to recover water for the dilute treating solution and to liberate hydrogen sulfide from the unit in a relatively dry state, it is necessary to separate the hydrogen sulfide from the steam that was evolved with it in the boiler. Steam and hydrogen sulfide from the surge tank are introduced to a stripper column just below a series of bubble trays filled with partially stripped condensate. As the vapors rise through the trays, part of the steam is condensed and the H_2S separated from this condensing steam. On leaving the stripper, the vapors flow to a shell-and-tube, water-cooled condenser where the steam is condensed. The H_2S gas returns with the condensate to an accumulator section at the top of the stripper where a temperature of about 90° F. is maintained. Here, the H_2S vapors are dried of nearly all of the water present since the vapor pressure of water is less than 37 mm. of mercury at 90° F. The H_2S is then readily vented from the system. The condensate is returned to the stripping section as reflux, flows downward over the bubble trays and is denuded of any remaining hydrogen sulfide. Stripped condensate is continuously removed from the bottom of the stripper and pumped to the top of the gas scrubber for blending with regenerated solution to form weak treating solution.

H_2S Removal from Liquids

Hydrogen sulfide can be removed from liquids even more easily than from gases due to the fact that at the same temperature and pressure, the distribution factor for H_2S is three times more favorable for treating liquids than for gases. Moreover, a more favorable contact is possible in the liquid phase with the aqueous tri-potassium phosphate solution. Briefly, liquids bearing hydrogen sulfide are first treated with a partially spent tri-potassium phosphate solution in a mixer, then separated out, treated a second time with freshly regenerated solution, separated again, and withdrawn from the system essentially free of hydrogen sulfide.

Aqueous solutions of tri-potassium phosphate and liquid hydrocarbons are immiscible and it is necessary, therefore, to obtain intimate contact between them in a mixing device. Two stages of vertical contactors are used for this purpose. The liquid charge stock containing hydrogen sulfide is joined by a partially spent treating solution and the two liquids are then thoroughly intermixed in the first stage contactor. From here they pass into a horizontal tank, identified as the first-stage phase separator, which operates full of liquid. Here, the heavier, foul treating solution is segregated as a lower layer. The upper layer of lighter, partially-treated liquid hydrocarbon leaves at the top of the tank and flows into the second-stage contactor, for treatment with fresh solution.

Freshly regenerated treating solution is introduced into the second contactor and the two liquids are again thoroughly intermixed just as in the first stage. They are then passed into the second phase separator where the tri-potassium phosphate solution again separates out as the bottom layer. At the top of the separator the treated liquid, from which essentially all of the hydrogen sulfide has been removed, is finally collected and withdrawn continuously from the system.

The freshly regenerated treating solution is introduced only at the inlet of the second contactor and after being used for final treatment of the liquid, is separated out as partially-spent solution. Part of this solution may again be passed through the second-stage by means of the second-stage recycle pump, if desired. Where H_2S is to be removed from liquids having high concentrations, no recycle is usually necessary since the volumetric ratio of phosphate to hydrocarbon is high enough to assure adequate contacting efficiency, but in many cases a certain amount of solution recirculation is advisable in each stage. the second-stage separator is delivered by the inter-stage transfer pump to the first-stage contactor where it is joined by the incoming liquid bearing the full charge of hydrogen sulfide. After passing through the first-stage contactor, the treating solution is heavily charged with H_2S in the form of potassium acid sulfide. A portion of this foul solution may be recirculated by means of the first-stage recycle pump and the remainder is returned to the regeneration section for removal of the hydrogen sulfide.

Thus, only freshly regenerated tri-potassium phosphate solution is used for the final cleaning up of the liquid in the second-stage contactor, and the incoming liquid charge, laden with hydrogen sulfide, is treated only with partially-spent solution. The foul solution is returned for regeneration only after passing through both of the contact stages.

The regeneration section for the removal of hydrogen sulfide from liquids is identical in general arrangement with the corresponding section for the treatment of gases. In locations where hydrogen sulfide is to be removed from both gases and liquids, a single regeneration

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Table No. 1

Example of water and steam requirements for 100-lb. hydrogen sulfide removal from gases of various contaminations

Based on: Treatment to final purity of 50 grains per 100 standard cubic feet.
Absorbing temperature—170° F.
Pressure—200 psi. abs.
Equilibrium solution concentration—2.0 Molal K_3PO_4.

Inlet Gas (Grains H_2S per 100 s.c.f.)	500	1,000	2,000	3,000
Per cent H_2S removal	90	95	97.5	98.3
Lb. steam per 100 lb. H_2S removed (Basis 50 psi. pressure)	1,540	1,010	860	780
Gal. water per 100 lb. H_2S removed (Basis 20° F. temperature rise)	7,870	4,920	4,060	3,600

section may be used, with the result that the installation is simplified and the investment considerably reduced.

Plants in Operation

A number of plants are using this process to remove hydrogen sulfide from hydrocarbon gases and liquids. There are five plants together charging hydrocarbon gas at a combined rate in excess of 35,000,000 cubic feet per day. Individual units range in capacity from 2,000,000 to 13,000,000 cubic feet daily. The gases charged range from low hydrogen sulfide content to as high as 3000 grains per 100 cubic feet, and the treated gases contain as low as 15 grains per 100 cubic feet.

The liquid phase process is now in commercial use in two plants for treating liquid propane and butane mixtures and may be applied to heavier hydrocarbons where the hydrogen sulfide content warrants such treatment.

The hydrogen sulfide gas that is separated out in these plants is burned as fuel or waste gas in most cases. In some instances it is used for the manufacture of sulfuric acid as in one plant where the H_2S is separated at a pressure of approximately 15 psi. with a purity of 99.3% and is delivered at its own pressure through a pipe line, ¾-mile long, to a neighboring chemical plant.

Operating Costs

The water and steam requirements for plants removing hydrogen sulfide with tri-potassium phosphate solution are shown in tabular form in Table I. A limited amount of electricity is required for lighting and instruments, but this is negligible in comparison with the value of steam and water, as shown. Operating costs are low due to the efficiency of the phosphate as a medium of absorption, to the high degree of heat exchange, and to the negligible loss of chemical used. In this process live steam may generally be used for all of the pumping services within the unit. The exhaust steam from these pumps is used again as a source of heat for the boiling and regeneration of the foul phosphate solution. The total steam requirements are further reduced by using heat exchangers to preheat the spent solution on its way to the regeneration system; cooling water requirements are likewise reduced. Although the treating solution consists mostly of water, the system is closed and loss of water is negligible.

Process handling losses may be neglected because the slight leakage of phosphate at stuffing boxes of pumps is readily collected and returned to the system. Heat for regenerating the spent solution may be furnished by a direct-fired boiler or by any other heating medium, and the pumps may be motor-driven, if desired.

Process Application and Summary

The tri-potassium phosphate process for hydrogen sulfide removal has applications as follows:

1. Treatment of hydrocarbon and other gases to recover a treated gas with hydrogen sulfide content as low as 5 to 10 grains per 100 cubic feet.
2. Treatment of hydrocarbon liquids charged to polymerization or alkylation units where hydrogen sulfide is deleterious to the process.
3. Treatment of gasoline prior to mercaptan removal.
4. Recovery of hydrogen sulfide in concentrated form from gases and liquids for chemical use.

The process may be summarized as follows:

1. The phosphate process for hydrogen sulfide removal has been thoroughly proven both in efficiency and economy by experience gained from a number of commercial units in operation.
2. Operation at minimum costs results because the process is completely regenerative, the utility requirements are low, and substantially no replacement of chemical is required.
3. The process is a practical means for removal of H_2S from gases and permits operation at temperatures up to 200° F. For this reason, as well as the fact that the treating medium is an inorganic salt solution, condensation and absorption of valuable hydrocarbons is negligible.
5. Only ordinary materials of construction are required. Special alloys are not necessary; plant cost is low.

Table II
Conversion Factors

Grains Per Hundred Standard cu. ft. vs. Pounds Per Million Standard cu. ft.

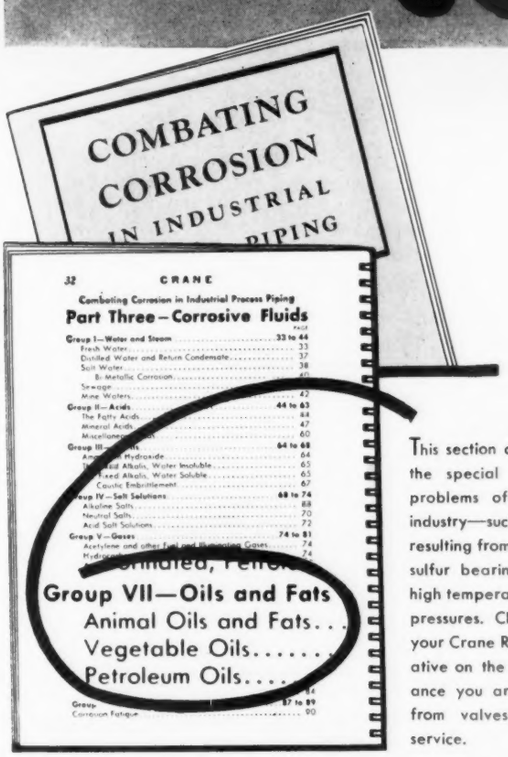
Grains/100 s.c.f.	100	200	300	400	500	600	700	800	900
Pounds/million s.c.f.	143	286	429	571	714	857	1,000	1,143	1,286

Volume per cent corresponding to grains per 100 standard cubic feet

In increments of 100 grains per 100 std. cubic feet		In increments of 10 grains per 100 standard cubic feet									
Grains	**Per cent**	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
		.016	.031	.047	.063	0.79	.094	.110	.126	.141	.157
100	.157	.173	.189	.204	.220	.236	.252	.267	.283	.299	.314
200	.314	.330	.346	.362	.377	.393	.409	.425	.440	.456	.472
300	.472	.487	.503	.519	.535	.550	.566	.582	.597	.613	.629
400	.629	.645	.660	.676	.692	.708	.723	.739	.755	.770	.786
500	.786	.802	.818	.833	.849	.865	.881	.896	.912	.928	.943
600	.943	.959	.975	.991	1.006	1.022	1.038	1.053	1.069	1.085	1.101
700	1.101	1.116	1.132	1.148	1.164	1.179	1.195	1.211	1.226	1.242	1.258
800	1.258	1.274	1.289	1.305	1.321	1.336	1.352	1.368	1.384	1.399	1.415
900	1.415	1.431	1.447	1.462	1.478	1.494	1.509	1.525	1.541	1.556	.....

*636 Grains per hundred cubic feet equals one per cent.

NOTE: Standard cubic foot measured at 60 deg. F. and 760 mm. absolute pressure.



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Color Density and Acid Vapor Indicate Oil Performance

This is a condensation of a paper presented during the 12th National Meeting of the Oil and Gas Power Division, The American Society of Mechanical Engineers, Ann Arbor, Mich., June 19-22, 1939.

By W. F. Weiland*

ABSTRACT

Prediction of motor oil performance and practical length of service have been studied in the light of oxidation tendencies as measured by visible changes in color densities, and corrosion and sludging tendencies as measured by determination of the temperatures at which acid vapors are given off by the oil. Results of this experimentation show that as oxidation proceeds the temperature at which acid vapor forms is lowered and that there is a relation between formation of visible sludge with oil breakdown and near-minimum, acid-vapor temperature. Relations of oxidation number (color density ratio) to time at high temperatures, and between acid vapor temperatures and oxidation numbers are among the graphical data shown.

IN CONNECTION with motor oils, there are two questions which engineers would like to have answered. How can the performance of an oil be predicted? When is an oil worn out? Oxidation characteristics of the oils are the starting point from which to attack the problem. In this respect the performance of an oil can be predicted with only a fair degree of certainty. However, changes in color density are excellent indicators of the oxidation tendencies of motor oils. Simple visual comparisons give quick indexes of the extent of oxidation under test or service conditions. Sufficient data have been collected to indicate that predictions may be made on the performance of an oil, at least as far as oxidation is concerned, from oxidation number (color density ratio) vs. time curves.

Oil breakdown is very definitely associated with a near-minimum, "acid-vapor temperature," which is the temperature at which an oil starts to give off acid vapors. These acid products are detected simply but are not taken into consideration in the standard acid test. As oxidation proceeds the temperature at which these acid vapors begin to form is lowered until a point is reached at which visible sludges begin to appear. Formation of visible sludge is closely associated with oil break-down and near-minimum, acid-vapor temperature. Evidence indicates that visible sludge is a warning to change the oil. The results of research in the relations of oil color density to oxidation, and acid vapor temperatures to corrosion and sludging, suggest that perhaps oil should be changed more frequently.

It is probable that dilution has some bearing on the acid-vapor temperature and on the oxidation characteristics of the drainings. To the author's knowledge, no satisfactory method has been devised to remove dilution without the danger of changing the oil characteristics.

The acid-vapor problem throws an entirely new light on oil filters. Filters can be made to remove solids and some sludges and they can be chemical in action to neutralize acids that might exist in the oil, but these acid vapors which form more or less continuously at vital points in an engine never come near the oil filter.

The extent to which oxidation has progressed may be determined from the relative change in color density in the oxidized oil compared with the original oil. Color density changes may be measured by a simple method. A glass bottom tube is filled to a quarter-inch depth with the oxidized oil. The original oil is poured into another measuring tube until the two oil columns show the same color density as observed by looking down through both columns simultaneously. The extent of oxidation is then indicated by the ratio of the height of the column of the original oil to the height of the column of oxidized oil. This ratio is called the "oxidation number."

Wide variation can be expected in the oxidation characteristics of oils on the market as determined by this method. This is well illustrated in Fig. 1 which shows that oxidation rates are independent of viscosity or gravity among marketed brands. Of the seven oils shown, two S.A.E. 10 oils lead in resistance to oxidation, contrary to expectation. Even oil gravities of one brand do not necessarily fall in logical order, oxidation test data show. More consistent results were obtained, however, from oils of superior quality where the boiling range of each S.A.E. grade is controlled within narrow limits in contrast to the first mentioned case where the several grades were obtained by blending.

The effect of temperature on oxidation is illustrated in Fig. 2. Some oils exposed to atmospheric conditions or when air is bubbled vigorously through them at atmospheric pressure and room temperature also show evidences of changes. Results of such tests in terms of oxidation numbers are given in Table 1. Column three shows the usual oxidation numbers after 30 minutes at 300°F. Aerated samples showed only a faint color change but

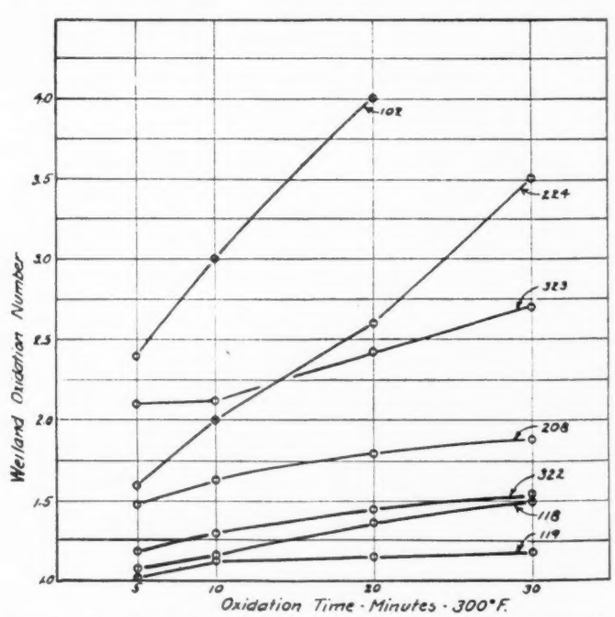
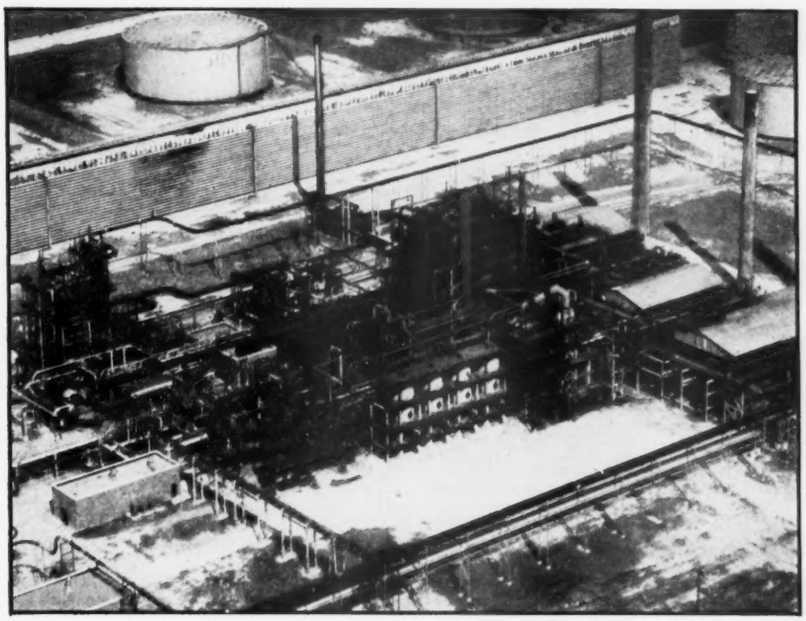


Fig. 1. Oxidation characteristics of oils commercially available are independent of viscosity and gravity

* University of Nebraska.



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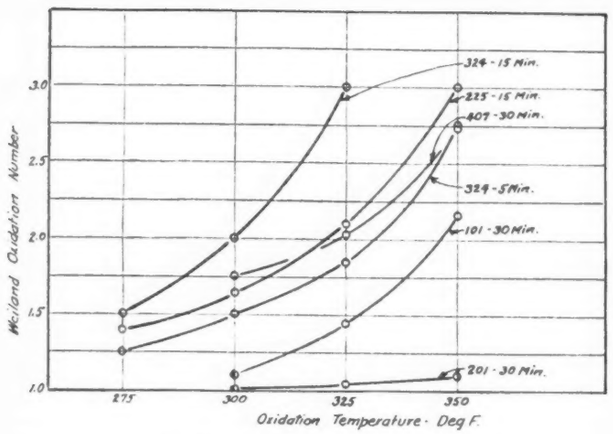

Fig. 2. Effect of temperature on oxidation

when these oils were exposed to 300°F. for 30 minutes much greater changes in oxidation number resulted. The ratio of oxidation numbers after aeration and heating to the numbers before aeration with the same heat test ranged from 1.3 to 1.9. It is evident then that some oils will not stand up as well under actual engine conditions.

Table 1
Effect of Aeration on Oxidation

Oil	Aeration period, hr	Oxidation numbers: 30 min 300 F before aeration	Oxidation numbers: Aeration only	Oxidation numbers: 30 min 300 F after aeration
101	27½	1.12	1.00	1.64
204	26½	1.02	1.12	1.92
105	26½	1.04	1.00	1.48
408	26½	1.92	1.08	2.76
309	26½	1.28	1.08	1.32
411	26½	1.52	1.00	1.52
412	26½	1.20	1.00	1.20
214	33	1.28	1.00	1.56
215	21½	2.84	1.04	3.68
226	26½	1.04	1.04	1.34

The upper curve of Fig. 3 is a service demonstration of this point. This oil had been used 2000 miles in an oil-bath air cleaner. The 30-minute 300°F. oxidation number is 4.3 times the similar number on new oil.

Presence of metals in the oil sample during oxidation has a variable effect which is quite alarming with some oils. The oxidation number obtained in the usual way is no indication of the number obtained by oxidation with a copper strip as shown in Table 2.

Table 2
Oxidation Numbers with Copper Strip

Oil	30 min. 300° F.	30 min. 300° F. with copper strip
101	1.12	13.70
203	1.56	13.48
206	1.28	4.34
206	1.80*	12.16†
208	1.88	5.00
112	1.32	4.36
120	1.32	1.96

*6 hours, 300° F.
†5½ hours, 300° F., with aluminum strip.

While it may seem questionable to some that a mere change in color density of an oil is an indication of the extent to which oxidation has progressed, evidence has been presented which shows the relation of the oxidation numbers to a sulfuric acid test and also to Indiana values. To provide further and more tangible evidence, a number of oils were oxidized at 300°F. for long periods of time. Results of some of these oils up to nine hours oxidation time are included in Table 3 and Fig. 4. The last column of Table 3 is highly significant in that it indicates the limit of solubility of the products of oxidation in the oil.

It is probable that external influences may readily change the solubility characteristics. Nevertheless, when these gums can be carried in solution no longer, they will be deposited on vital engine parts, accumulating gradually to build up to a dangerous point. Concentration of gums or the products of oxidation need not reach the saturation point in the entire batch of oil in the crankcase

Table 3
Long-time Oxidation, 300° F.
(Oxidation numbers—acid vapor temperature, degrees F)

Oil	Minutes: 5	10	30	Hours: 1	3	4.5	6	9	Visible* sludge
203	1.28	1.28	1.56	1.88	2.80	3.54	4.52	8.46	10†
280°	270°	270°	260°	260°	220°	....	220°	....	
206	1.16	1.28	1.4	....	1.76	1.8	2.86	....	10†
290°	290°	270°	270°	280°	....	....	260°	....	
208	1.48	1.64	1.88	2.72	4.40	5.24	7.25	8.9	8
310°	290°	265°	265°	265°	250°	....	260°	230°	
112	1.12	1.16	1.32	1.48	1.60	1.68	2.16	2.80	10
250°	250°	250°	240°	240°	....	....	240°	....	
120	1.16	1.17	1.32	1.52	1.80	1.92	2.28	3.44	10
270°	260°	230°	265°	250°	240°	....	210°	....	

*This oil has outlived its usefulness. The calculated oxidation per cent for the drainings is well over 300.

before deposition begins. Local supersaturation may occur at any time in parts of the engine where these gums form most readily and especially where the oil is not generously and continuously replaced. The danger point of an oil may be reached even though the stick to all appearances is "clean."

Observations on the behavior of oils in engines have led to an attempt to predict the performance of an oil, at least as far as oxidation is concerned. However, because oil performance is subject to many variables, any predictions must be accepted with an open mind. Estimates are based on the average slope of the oxidation number-time curve, stated as a percentage. It is obtained as follows:

Assume an oil with oxidation numbers 1.20, 1.32, 1.40, and 1.40 for 5 min., 10 min., 20 min., and 30 min., respectively. Then

Change in the first 5 min. $= 0.20$

Change per min. $= \frac{0.20}{5} = 0.040$

Change from 5 min. to 10 min. $= 1.32 - 1.20 = 0.12$

Change per min. from 5 min. to 10 min.

$= \frac{0.12}{5} = 0.024$

Change from 10 min. to 20 min. $= 1.40 - 1.32 = 0.08$

Change per min. from 10 min. to 20 min.

$= \frac{0.08}{10} = 0.008$

Change from 20 min. to 30 min. $= 1.40 - 1.40 = 0.00$

Change per min. from 20 min. to 30 min. $= 0.000$

Average rate from 0 to 30 min. $= (0.040 + 0.024 + 0.008 + 0.00) \div 4 = 0.018$, which stated as a percentage is 1.8 per cent.

This oxidation percentage divided into 100 gives 56, a number closely related to the maximum hours of useful service which the oil may be expected to give; and if a speed of 40 m.p.h. is assumed, the useful service is 2200 miles.

As a check on these calculations, Table 3 gives oil No. 206 as showing visible sludge at an oxidation number of slightly over 10. The oxidation per cent for the first 30 min. for this oil is 1.87 per cent or the equivalent of 2100 miles. Table 4 shows oil No. 206 after 2000 miles of service. The oxidation number of these drainings after filtering through the usual laboratory filter paper is given in column 4 as 10.1 which checks well with Table 3.

A further check of the drainings is of value. The filtered drainings are oxidized 30 min. at 300°F. in the usual manner. The oxidation number as compared with the drainings is given in column 3 of Table 4 as 1.68. Then proceeding as in the calculation for oxidation percentage of the new oil:

$$\frac{(1.68 \times 10.1) - 1}{30} = 53.3 \text{ per cent}$$

Observations of drainings indicate that the oil has passed its service peak and is rapidly declining in usefulness as a lubricant when this "oxidation per cent" of the drainings passes the 50 per cent mark.

Oil No. 107 from Table 4 has outlived its usefulness. The casual observer would come to this conclusion from a mere inspection of these drainings.

Oil No. 208 in Table 4 has far outlived its usefulness.

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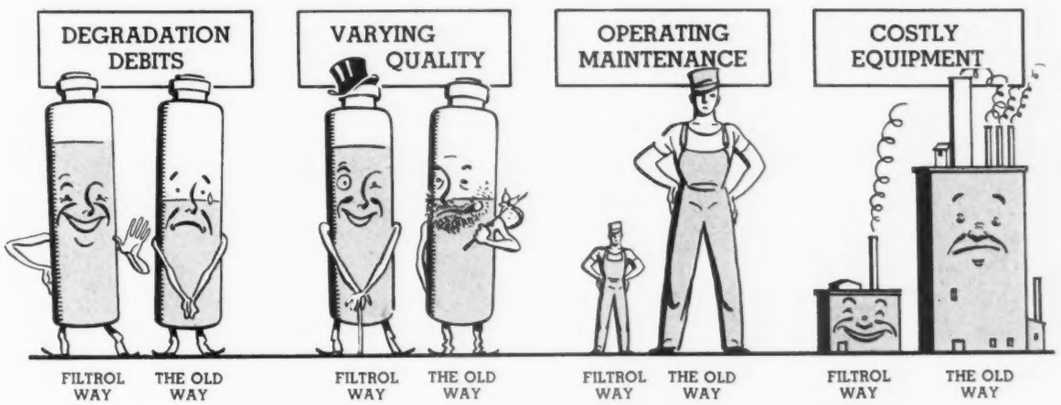

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Table 4
Oxidation of Drainings

Oil miles	New oil 30 min. 300 F.	Drainings 30 min. 300 F. to drainings	Drainings to new oil	Oxidation new oil per cent	Oxidation drainings per cent
206-2000	1.28	1.68	10.10	1.87	53.3
107-1000	1.46	2.16	9.93	2.60	68.3
208-1500	1.88	5.21	20.00	4.63	*
119-1100	1.19	2.67	4.26	0.85	34.6
119-1400	1.19	1.96	4.05	0.85	23.1
322-37 hr	1.56	2.50	5.65	2.20	43.7
327-39 hr	1.40	3.30	3.25	1.80	32.4
101-446	1.12	1.72—Ford V-8 moderate speed; long trip			
101-519	1.12	1.68—Ford V-8 city driving			
101-1150	1.12	1.41—Ford V-8 city driving; cold weather			
101-1000	1.12	2.42—Ford V-8 transport truck			

*This oil has outlived its usefulness. The calculated oxidation per cent for the drainings is well over 300.

The oxidation number of the filtered drainings is 20.0 while Table 3 shows this oil reaches its useful limit at a sludging number of 8.

The 1100-mile draining of oil No. 119 is in worse condition than the 1400-mile draining of the same oil. This is readily explained in that the effective compression ratio of the engine from which the 1400-mile drainings were taken is considerably less because of poor valve timing than the engine using the same brand oil for 1100 miles. The better engine, as would be expected, is more severe on the lubricating oil. Both automobiles were operated under very similar conditions.

A still further example of the variable oil performance to be expected, even in the same or similar engines, is shown in the four examples of drainings of oil No. 101.

Fig. 3 is of interest as it illustrates the progressive increase in oxidation rate of oil in service. Both drainings were obtained from the same automobile operating in each instance under similar conditions.

The per cent oxidation computed in the usual manner for the new oil, Fig. 3, is 0.15%, for the 260-mile draining is 3.5%, for 1600-mile draining is 7.55%, and for the 2000-mile air-cleaner draining is 13.85%. Total oxidation based on the new oil is 9.8% for the 260-mile draining, 50.5% for the 1600-mile draining, and 18.2% for the aircleaner draining.

Sludge formation in the 1600-mile draining during the laboratory oxidation was noticeably rapid, which is further evidence of the desirability of an oil change when the oxidation per cent of the drainings reaches the 50% point.

Acid Products from Oil Breakdown

It has been known for some time that oil breakdown is attended by the formation of more-or-less acid products. The exact nature of these products, general rules governing their formation, methods of their detection, and their effects are not so well known. In the practical analysis of this problem, their exact nature is of less importance than a knowledge of the conditions under which these products are formed and evidence of their effect. It must be clearly understood that the standard acid test for lubricating oils is of no value in the detection of these acid products, as they are given off by the oil principally as vapors, hence, the designation "acid vapor".

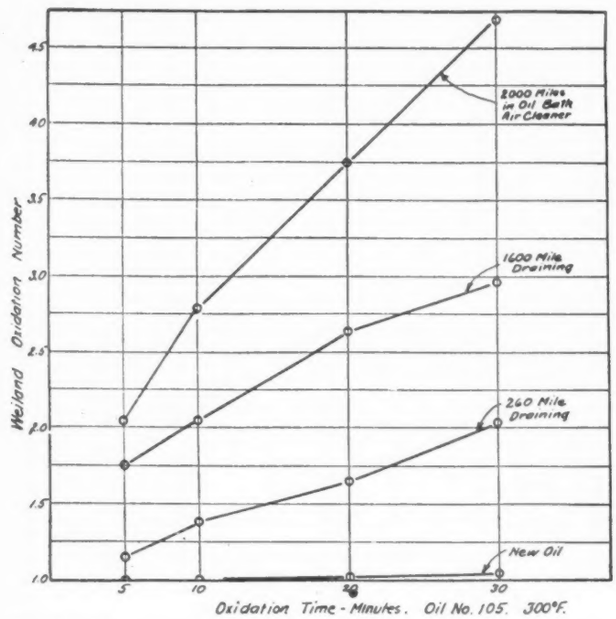
2000 Miles in Oil Both Air Cleaner
1600 Mile Draining
260 Mile Draining
New Oil
Heiland Oxidation Number
Oxidation Time - Minutes. Oil No. 105. 300°F.

Fig. 3. The progressive increase in oxidation rate of oil in service. Both drainings were obtained from the same automobile operating under similar conditions in each instance

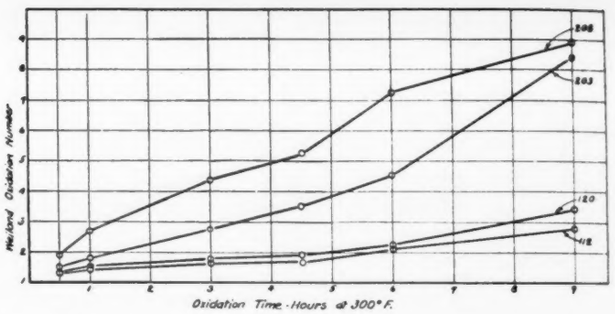

Fig. 4. Oxidation numbers of oils continued to increase during the nine hours of oxidation tests at 300° F.

Acid-Vapor Test. The oxidation apparatus is slightly modified by placing a 1-in. diameter x 3-in. length glass tube in a vertical position in the suction line leading from the test tube and as near the test tube as practical. An acid indicator such as blue litmus is suspended in this tube.

Procedure. Heat the oil bath to 350° to 360° F. and maintain the temperature within these limits. Place about 25 cc. of oil in the test tube and adjust the air suction to 4 in. of water. When the first trace of color change appears on the litmus, note the temperature of the oil sample. This reading is recorded as the "acid-vapor temperature."

In the average run of oils, the acid vapor temperature drops rapidly as oxidation proceeds. The lower row of figures under each oil in Table 3 gives some of these temperatures for the long-time laboratory oxidation tests. The acid-vapor temperature of the new oil is no definite prediction of what happens later. However, a strong acid-vapor indication in a new oil containing fatty additives is open to suspicion. Such is the case of the oil of Fig. 5, which showed a relatively high resistance to oxidation by the usual test, but the 1600-mile draining broke down very rapidly.

Fig. 5 shows graphically the trend in acid-vapor temperatures of three of the oils of Table 3. Oxidation for several points on these curves was forced to obtain a few of the acid-vapor temperatures not included in the table. The acid-vapor temperature appears to reach a near-minimum value and, when this occurs, *visible sludges begin to make their appearance in the oil*, the oil being oxidized in the usual manner.

For low oxidation numbers the acid-vapor temperatures may be more or less erratic, especially for built-up oils containing a miscellaneous assortment of additives, as oil No. 120. Such oils are likely to approach the near-minimum, acid-vapor temperature much sooner than a straight-cut oil and, therefore, are again open to strong suspicion.

Acid-vapor temperatures as low as 180° F. have been observed in oils oxidized in the laboratory, and as low as 140° F. in crankcase drainings. There is no record as yet that any of these oils has shown the presence of acid by the standard acid test.

The minimum acid-vapor temperature and possibly the rate of drop in acid-vapor temperature are in themselves only an indication of what may be expected to happen in an engine specifically from the point of view of corrosion. To throw some light on this question, a number of new oils and drainings were heated at 300° F. in the oxidation apparatus with air bubbling through in the usual manner for 3-hour periods. Carefully weighed strips of metal were placed in each sample of oil. Tests were made with cadmium-copper-silver bearing-metal strips, and repeated with fresh oil samples on polished copper strips as well as on pieces of aluminum alloy. At the close of the test the loss in weight in per cent was calculated.

These losses in weight are slight but they nevertheless exist, and lead to the question of possible corrosion with various metals used in the internal combustion engine. Drainings that show the lowest acid-vapor temperature are not necessarily the poorest oils, at least as far as the metals tested are concerned.

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Function of Colloidal Graphite In Special Purpose Lubes

By Raymond Szymanowitz*

ABSTRACT

Improved production methods have made possible the addition of colloidal graphite to penetrating oils without the previous problems of maintaining stability of dispersion in the presence of large amounts of volatile, low viscosity liquids such as benzol, carbon-tetrachloride, etc. Use of colloidal graphite in forming durable self-lubricating graphoid surfaces on metal parts exposed to high temperatures. The author also discusses how the peculiar properties possessed by graphite, in the colloidal state, find application in the running-in of mechanical devices and in the lubrication of steam cylinders.

IN A PREVIOUS article (1) the writer discussed the nature of graphite and explained how its peculiar crystalline structure made possible its use as a dry lubricant. Therein was also discussed how friction parts, when lubricated with oils containing colloidal graphite, take on a graphoid surface; the manner in which such surfaces contribute to improved lubrication through their affinity for oil and how seizure of opposing members in the temporary absence of fluid lubricants is discouraged.

In mechanical devices where full film conditions prevail, the benefits of colloidal-graphited lubricants are not readily detectable. The size of the particles of matter in the colloidal state is such that they can move with comparative ease vertically as well as horizontally within a layer of the thickness of the average oil film. It is when the graphite particles become affixed to a friction surface that they are best able to manifest their influence.

The purpose of this article is to set forth the more practical aspects of graphite lubrication to show the way in which the properties of this material come into play in a diversified list of special-purpose lubricants.

Penetrating Oils

In order for an oil to function as a lubricant at remote points, it is essential that the same possess penetrating properties. Inasmuch as penetration is largely dependent upon low viscosity and since low viscosity oils are limited in their pressure sustaining abilities, a petroleum body which is a good penetrant must, of necessity, be seriously limited as a lubricant. For this reason it is not uncommon to reinforce penetrating oils with colloidal graphite. The graphoid surfaces which are formed on friction parts as a result of the continued use of such a lubricant exhibit pronounced affinity for oil and thus reduce the tendency of liquid films to rupture.

In the event that extreme pressure should cause a breakage of the oil film, the surface veneer of graphite present provides a protection to the rubbing parts until the oil supply is restored.

Until recently the formation of stable suspensions of colloidal graphite in extremely low viscosity liquids such as: benzol, carbon tetrachloride, trichlorethylene, triethanolamine, etc., could not be accomplished. However, improved processes (Fig. 1) have now made it possible to commercially produce highly stable preparations of colloidal graphite in a wide variety of carriers. No longer does the addition of organic penetrants to petroleum compounds introduce the problem of maintaining graphite suspension.

Rubber Lubricants

Colloidal graphite can be suspended in carriers other than mineral oil. When diffused in a mixture of glycerine and water colloidal graphite completes a combination (2) which is used for the treatment of rubber components contained in shackles, shock absorber arms, steering columns, axle spring seats, motor mountings, etc.

Glycerine, being hygroscopic, prevents evaporation of the aqueous constituent, lowers the freezing point of the mixture and contributes to increased viscosity. Most important, it has no deleterious effect upon rubber. The merits of water as a rubber lubricant are sufficiently well known to require no extended comment here and colloidal graphite, of course, reaches remote parts by penetration as effectively as when incorporated in penetrating oils.

Application may be made in the usual manner, using a brush, spray gun or oil can.

High Temperature Lubricants

The lubrication of devices that are required to operate at high temperatures, likewise, constitutes something of a problem. In many cases the solution is not difficult, especially where the lubricant can be fed to the friction sur-

* Acheson Industries, Inc., New York, New York.

1 R. Szymanowitz, "Colloidal-graphited lubricants and graphoid surfaces", Nat. Pet. News, 31, R-28, 1939.

2 U. S. Patent No. 2,083,176.

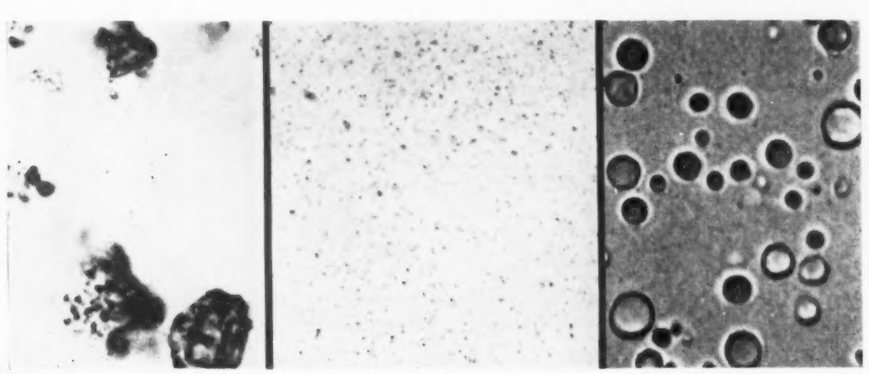
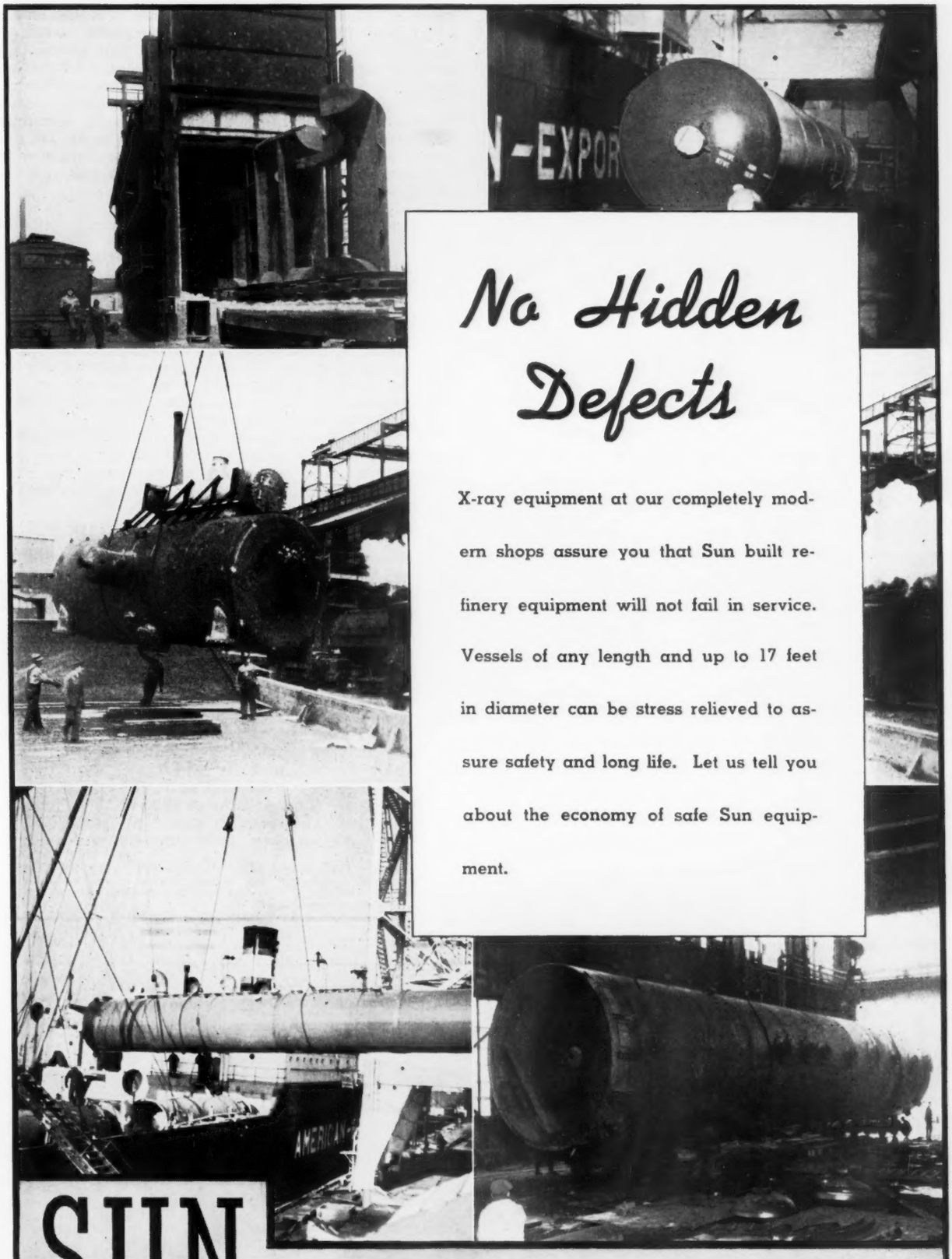


Fig. 1. These photomicrographs (magnification approximately 1600 times) compare particle size and uniformity of dispersion between fine face powder (left), colloidal graphite (center) and pasteurized Jersey milk (right)



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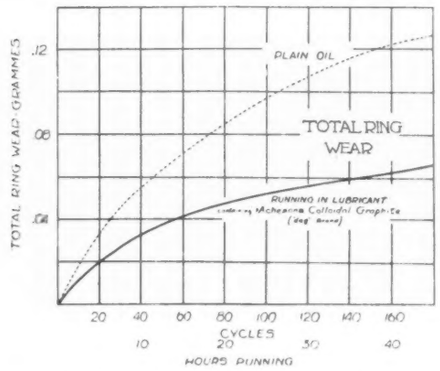

Fig. 2. Tests by the I.A.E. research department (England) compare wear of cylinders and piston rings lubricated with plain oil and graphited oil

faces under forced feed and thus play the role of a coolant as well as a friction reducer.

In some instances, unfortunately, it is neither possible nor practical to employ a circulating lubricating system as, for example, in the case of oven chains, kiln cars and certain parts of glass blowing machinery. For such applications one must depend upon drop feed lubricators or ordinary squirt cans.

When a small amount of lubricant is applied to a hot surface, distillation or decomposition of the petroleum body eventually follows. While distillation is slightly beneficial, in that evaporation is accompanied by cooling, chemical decomposition is highly objectionable since the end-product is usually hard, abrasive carbon which not only reduces clearance between the rubbing members but, at the same time, tends to promote wear. It follows, therefore, that the ideal high temperature lubricant would be a liquid that has a flat viscosity curve, an unusually high boiling point and is chemically stable. It is also desirable that if distillation does take place, the process be a complete one without breakdown and the subsequent formation of objectionable by-products.

The ideal high temperature liquid lubricant, unfortunately, is yet to be found. However, a radically different type of material possessing many properties suitable for this class of work is electric-furnace graphite. Being an unctuous solid, viscosity plays no part. Likewise, oxidation difficulties are not serious inasmuch as the material is stable at temperatures up to approximately 600° C. Since the vaporization point of graphite is approximately 3000° C., distillation constitutes no problem, while its chemical inertness is well illustrated by its wide utility in the form of electrodes used in the preparation of the halogens and other highly active elements and compounds.

When rendered colloidal and suspended in a low carbon petroleum carrier, electric-furnace graphite possesses many of the properties of a substance in true solution. It, for example, resists the action of a centrifuge, seemingly defies the law of gravity, is not filtered out by close fitting mechanical parts, and remains behind as an unctuous film when its petroleum vehicle is removed by evaporation or distillation.

Running-in Lubricants

During the running-in of new mechanical devices, the friction surfaces are usually surprisingly rough despite the fact that they may have been carefully machined. The running-in of the rubbing parts may involve several processes depending upon the physical properties of the materials involved. For example, there may be a grinding off or shearing of the projections, the crushing of the peaks of the softer or more ductile metal, or the actual melting of the friction surfaces to form an amorphous skin, known as the Beilby layer (3). As running-in progresses, smoothness increases with an attendant decrease in friction.

Boundary conditions prevail during much of the running-in period with the result that the presence of an adjunct lubricant is highly desirable to minimize oil film rupture. Colloidal graphite has long played such a role, particularly among manufacturers of automotive and aircraft engines. (Fig. 2) Recent research has revealed that colloidal graphite not only forms the graphoid surface previously mentioned, but also becomes a part of the Beilby layer through occlusion, thus making possible oil-free lubrication for periods far in excess of what one would expect.

An indication of the durability of colloidal graphite's effectiveness in preventing seizure is shown by experiments just completed by Shaw (4) in London. (Fig. 3) He found that a white-metal bearing, carrying a steel shaft with a peripheral speed of 261 ft. per min. under a load of 300 lbs. per sq. in. when lubricated with plain oil, seized in less than 3 hours after the oil supply had been cut off. When the same oil was charged with 0.2% colloidal graphite, the bearing ran continuously, without injury, for 181½ hours after the termination of fluid lubrication. The test was stopped and neither the bearing nor shaft showed the slightest sign of injury.

Scores of other "dry" runs are on record wherein engines have functioned without failure for long periods under a variety of conditions from the standpoint of load, speeds and bearing materials. It will be appreciated that the properties of colloidal graphite that made possible such demonstrations are of considerable value during the running-in of closely fitted, machined parts.

It would be well to add that inasmuch as graphite is remarkably inert, from the chemical standpoint, the use of an adjunct lubricant of this type guarantees against complications when cadmium-silver or copper-lead bearings are involved.

Steam Cylinder Lubrication

It has long been a practice to mix flake graphite with oils used for the lubrication of steam cylinders. This procedure has not been altogether successful due to the difficulty of keeping flake graphite in suspension. Furthermore, there exists the danger of introducing an excess of graphite because of the impossibility of homogeneously mixing graphite powders. However, when colloidal, electric-furnace graphite is dispersed in steam cylinder oils, uniform blends result and suspension is assured.

Since colloidally dispersed graphite may, for all practical purposes, be regarded as being in true solution, the conventional types of lubricators used for plain oil may be employed.

When graphite is used with an oil, the critical temperature of the latter is raised as much as 15 to 20° C., thus making lubrication more positive than with plain oils. No clogging of the oil ducts is experienced because of the

3 Sir George Thomas Beilby, eminent British Physicist, offered evidence which indicates that polish results when the surface of the material undergoes flow and becomes coated with a layer devoid of crystalline structure.

4 H. Shaw, "Oil cut-off tests", The Machinist (London) March 19, 1938.

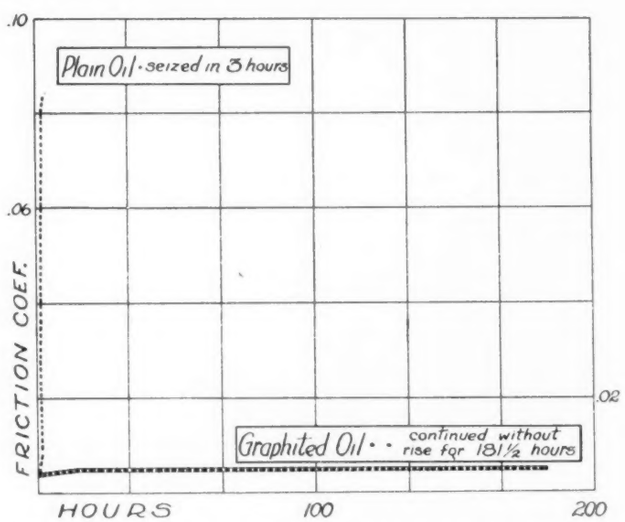

Fig. 3. Chart showing results of tests by H. Shaw to determine time of seizure after oil was cut off from bearing

minuteness of particles in the colloidal state. Tests have been conducted which indicate that oil feeds may be reduced as much as 50% when colloidal graphite is a component of the cylinder oil. This is of particular interest in marine and other installations where the presence of oil in the boilers is to be avoided.

It is interesting to note that graphite, colloidally dispersed in water, is gaining wide adoption in saturated steam units which were previously run "dry". Installations of this character are usually found where the exhaust steam is used for process work and includes such industries as: bleaching, food-stuff, laundering, etc.

The several applications for colloidal graphite cited in this article are representative of the part this type of substance is capable of playing in special-purpose lubricants.

The increasingly severe demands made upon lubricants by new processes and procedures broaden the potential field for electric-furnace graphite in the colloidal state.

New Patents

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, N. W., Washington, D. C., from whom copies may be obtained at rate of 25c each. State number of patent and name of inventor when ordering.

Method and apparatus for producing motor fuel—P. A. Maschwitz, Toledo, assignor to Pure Oil Co. Filed Aug. 13, 1936. No. 2,165,804.

Process for improving fuel oil—Mathias Pier and Ernest Donath, Germany, assignors to Standard-I. G. Co. Filed Dec. 24, 1937. No. 2,165,940.

Treating lubricating oil fractions—C. R. Wagner, Chicago, assignor to Pure Oil Co. Filed Dec. 17, 1930. No. 2,165,949.

Solvent refining mineral oil—F. W. Hall, New York, assignor to Texas Co. Filed Apr. 4, 1936. No. 2,166,005.

Stabilized kerosine—A. P. Hewlett, Westfield, and G. E. Phillips, Cranford, N. J., assignors to Standard Oil Development Co. Filed Nov. 28, 1936. No. 2,165,261.

Stable blended oil—P. J. Gaylor and J. I. Wasson, Elizabeth, N. J., assignors to Standard Oil Development Co. Filed Apr. 27 1935. No. 2,165,324.

Motor fuel—H. V. Rees and J. C. D. Oosterhout, Port Arthur, assignors to Texas Co. Filed Oct. 12, 1934. No. 2,165,651.

★ ★ ★

July 18, 1939

REFINING

Method for purification of petroleum mahogany sulphonates—Manuel Bloomer, Butler, Pa., assignor to L. Sonneborn Sons, Inc. Filed Jan. 19, 1937. No. 2,166,117.

Polymerization of hydrocarbon gases—Fred M. Clothier, Jr. Lansdowne, and Hugh W. Field, Glen Mills, Pa., assignors to Atlantic Refining Co. Filed Sept. 27, 1935. No. 2,166,129.

Treatment of hydrocarbon oils—Edward P. King, Lansdowne, Pa., assignor to Atlantic Refining Co. Filed April 10, 1935. No 2,166,160.

Preparation of charge, and preparation of hydrocarbons for conversion—Albert G. Peterkin, Bryn Mawr, Pa., assignor to Houdry Process Corp. Filed Feb. 21 and Feb. 27, 1936. Nos. 2,166,176 and 2,166,177.

Oil refining process—Charles W. Woodworth, Berkeley, Calif. Filed Aug. 16, 1937. No. 2,166,193.

Apparatus for distilling petroleum oils—John E. Schulze, Chicago, Ill., assignor to Red River Refining Co. Filed Aug. 24, 1925 No. 2,166,374.

Processes for resolving petroleum emulsions—Melvin De Groote University City, Mo., assignor to Petrolite Corp. Filed May 31, 1938. No. 2,166,431, 2,166,432, 2,166,433, and 2,166,434.

Methods of refining oils—Oswald H. Milmore, Berkeley, Calif., assignor to Shell, Development Co. Filed Nov. 6, 1937. Nos. 2,166,502 and 2,166,503.

Conversion of hydrocarbons—Thomas Cross, Jr., Baton Rouge, La., assignor to Standard Oil Development Co. Filed Dec. 17, 1935 No. 2,166,544.

Purification of ketones—Richard M. Deanesly, Berkeley, Calif., assignor to Shell Development Co. Filed Nov. 25, 1935. No. 2,166,584.

Hydrocarbon oil conversion—Joseph G. Alther, Chicago, Ill., assignor to Universal Oil Products Co. Filed Jan. 15, 1937. No. 2,166,787.

Conversion of hydrocarbon oils—Jacque C. Morrell, Chicago, Ill., assignor to Universal Oil Products Co. Filed Dec. 30, 1935. No 2,166,820.

Conversion of hydrocarbon oils—Kenneth Swartwood, Chicago, Ill., assignor to Universal Oil Products Co. Filed Dec. 11, 1937. No. 2,166,829.

Dewaxing hydrocarbon oils—William P. Gee, Plainfield, N. J., assignor to Texas Co. Filed Feb. 19, 1937. No. 2,166,891.

Process of treating petroleum tank bottoms—Frank E. Holsten, Tulsa, Okla. Filed Dec. 12, 1936. No. 2,166,893.

Level column for evaporators and fractionating towers—James W. Gray, Mountain Lakes, N. J., assignor to Luis de Florez, New York, N. Y. Filed Sept. 25, 1935. No. 2,166,904.

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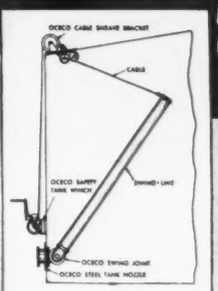

• Oceco swing line equipment consists of a steel nozzle, a heavy duty swing joint that will not twist or leak, a gas-tight stuffing box and cable sheave mounted on the tank top, and winch—all of Oceco's serviceable design and dependable manufacture. Winches are worm geared and self-locking. Oceco swing lines meet any tank requirement. Write for descriptive literature.

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Edwin Davis Cumming . . .

At 24 a Gasoline Plant Fireman

At 40 Head of Shell's Refineries

● Edwin Davis Cumming, appointed vice president in charge of manufacturing for Shell Oil Co., Inc., at St. Louis, last March is one of the youngest ranking executives in the oil industry today.

Sixteen years ago he was a fireman working in a Shell absorption plant at Signal Hill, Calif. Today, at forty he is head of manufacturing operations for the fourth largest refiner in the United States.

Cumming was born in the little town of Troy, Ala., lumber, cotton and peanut center, but spent most of his younger days in Birmingham, industrial capital of the south. He entered Alabama Polytechnic Institute at Auburn as a chemical engineering student in the fall of 1918. He enrolled in the Student Army Training Corps at that time and the end of the war saw him with something like 72 days service to his credit.

After his graduation in 1922 Cumming went to work in a coke and benzol by-product plant in Birmingham but quit at the end of three months. While working for the by-product manufacturer Cumming had to work 11 hours when he was on day shift, 13 hours when he was on the night shift. Once a week, when shifts changed, his hours stretched out to 18. The hours seemed a bit long to a youngster just out of college and the opportunities for advancement looked slim so he headed for Oklahoma and the oil industry.

At Big Heart (now Barnsdall) Cumming got a job as chemist at the Barnsdall Refining Co. plant. That was in the early days of cracking when troubles were many. Unexpected difficulties developed which forced a shut-down of the plant and left Cumming free to do as he pleased.

Still headed west Cumming decided to go to California "more on a pleasure trip than anything else." Once there he visited the Signal Hill oil field which then was in its infancy. It was there that he first entered the Shell organization as a fireman in a natural gasoline plant. After two months at Signal Hill he was transferred to the Brea plant.

In the early summer of 1923 Cumming went to Long Beach as a gas engineer and worked in Shell's production department for three years. He then was placed in charge of the Long Beach absorption plant.

It was in 1926 that stabilizers were first coming into widespread use and natural gasoline was ceasing to be as wild as before. Shell began to build stabilizing plants all over southern California—at Brea, Ventura, Dominguez Hill with Cumming in charge of operation at all of them.

About this time Shell was beginning to enlarge its Wilmington, Calif., refinery from its former capacity of 27,000 barrels daily to 56,500 barrels of crude per day. As a part of this building program it was determined to install a stabilizing plant so Cumming was called in to take charge of that.

In January, 1930, Cumming was called to San Francisco to the main manufacturing offices on the west coast as technologist specializing in natural gas and butane. During the next five and a half years his work gradually spread into all phases of refinery technology.

In June, 1935, Cumming went to Shell's Dominguez cracking plant as assistant superintendent. The Dominguez plant then had a capacity of 34,800 barrels daily. Very shortly he was moved over to the larger Wilmington plant in the same capacity and soon he was back in San Francisco as assistant to the vice-president in charge of manufacturing. In May, 1937, he was sent to the 22,500-barrel Martinez refinery as manager.

In January, 1938, Cumming was transferred to Wood River, Ill., and placed in charge of the company's 43,000-barrel complete plant. He remained in charge until last March when he stepped up to his present position following shortly after consolidation of all Shell's interests in this country into Shell Oil Co., Inc.

While he was in California Cumming married and now has a nine year old son. His indoor sport is bridge. A hobby he picked up in California is motion picture photography. He still is trying to break 100 at golf but he once caught a 36-pound salmon—and it didn't get away.

More Care in High Temperature Mortar Selection Urged

The quality of the bonding mortars employed in high temperature service is an important factor in the resistance of furnace walls to various destructive agencies affecting the brickwork, it is brought out in a recently published Information Circular No. 1 of the American Refractories Institute. J. A. Patterson, author of the circular, stated that the selection of mortars is not given the consideration it should receive.

An important property of air-setting high temperature bonding mortar not possessed by fireclays, is high bonding strength at atmospheric temperatures. This property permits the laying of the brick in thin-wall construction. With this construction the walls may be as thin as 4½ inches and laid without header courses, it is pointed out. The formation of gas- and air-tight joints prevents air infiltration and consequent dilution of furnace gases when a negative gas pressure prevails within the furnace, and insures protection of the steel work when positive pressure tends to force hot gases outward through the joints.

Air-setting bonding mortars are usually furnished in wet or plastic form, although some are furnished dry. Among the air-setting bonding mortars on the market, are included some which develop a fired or ceramic bond at relatively low temperatures. These mortars while still cold develop a strong bond which is maintained throughout the entire temperature range to which they are subjected in service. They form mechanically strong joints with high resistance to abrasion; their porosity is low, preventing slag penetration; and they are highly refractory.

Heat-setting high temperature bonding mortars do not have a strong bond after air drying, but develop such a bond after being subjected to relatively high temperatures. A properly chosen heat-setting mortar is more refractory than the fine-ground fire clay generally used for laying brick. Consequently, thicker joints may be employed with safety.

Oil Companies In Iowa

Take Back "Key" Stations

By V. B. Guthrie, N.P.N. Managing Editor

Direct management of oil marketing properties in Iowa is definitely increasing, a recent survey by NATIONAL PETROLEUM NEWS shows.

In this birthplace of the dealer marketing plan, a large proportion of independent jobbers and some of the larger oil companies are directly operating their own "key" service stations.

Also several of the larger oil companies have leased out their bulk plants to strictly local marketing companies to operate, in the belief that marketing costs will be reduced and sales efficiency increased under direct management. The number of local marketing companies increased in this state in 1938 and the gain in gallonage by oil jobbers was larger than for other types of marketing companies.

How independent marketers are giving more of their own time to the personal supervision of their sales outlets is also brought out in the accompanying article.

OUT IN IOWA, the world's biggest corn patch, and birthplace of the so-called "dealer marketing plan" for retailing gasoline, the summer of 1939 finds an increasing number of independent jobbers not only running their own key stations, but also giving close personal attention to those stations. They say this gives them a better opportunity to study and direct merchandising management.

It was four years ago July 1 that the chain store tax law became effective in Iowa, to escape the penalties of which the large oil companies gave up the direct operation of their service stations. They leased out their stations that summer, posted a tank wagon price at which the lessee bought and withdrew from station retailing operations entirely. This method of

A new service station of the Bartles-Shepherd Oil Co. at Waterloo, which the company operates direct, as it does the other six stations it owns in this city. It sells its own brand of gasoline and a wide range of automotive products

operations, known also as the "Iowa Plan", was soon widely adopted over the country.

Many independent marketers never followed the big companies in leasing out their stations. Some that did now realize the advantages in having their sales outlets under their own direct management. Where some of these marketers formerly spent much of their time at their bulk plants, they now maintain their own desks at their key stations, which are definitely identified as the company's headquarters. The jobber's mail comes there, monthly statements of accounts are mailed from that address and customers come to the stations to pay their bills.

Out of 24 independent marketing companies in all sections of the state, who were recently visited on a two-weeks trip in Iowa, this writer found 16 running their own service stations and directing their company operations from that vantage point of close contact with their customers. According to A. C. Gienapp of Manchester, secretary of the Iowa Independent Oil Jobbers Association, this is true of independent marketers generally over the state.

THE reason these jobbers give for making their headquarters at the service station and spending as much of their own time there as possible is that they have found this is the best way to keep in closer touch with their businesses and be able to give the detailed supervision over station selling that is necessary today.

Many of them have a small private office off the station salesroom, or upstairs, where they can have privacy. Some of these jobbers, however, have their office desks out in the station salesroom. In all cases, the station and its daily business is "right under their nose", as one marketer expressed it.

These marketers say they realize, as do the oil jobbers everywhere, that their business success depends more and more on the management and sales help they can give their own stations and their dealers. To be able to direct the selling of others, they reaalize they must know themselves intimately what their customers are buying and what sales talks and what printed sales material will induce them to buy.

The Iowa jobbers say, as do marketers everywhere, they must look to other oil products than gasoline such as tires, batteries and other automotive items, for larger profits in their business. They know that gasoline and a certain amount of motor oil business will come into the station of necessity, but that other products they are carrying have to be sold—and sold in competition with other types of outlets than oil company stations. They will tell you that the only way the jobber can learn what to sell at his station, aside from the staple oils and gasoline, and how to sell it, is to be in close contact with the buying that is done from the driver's seat in an automobile.

Many of the jobbers, particularly where their businesses are small, put in part of their time on the pump island in actual selling. A visitor may find them in the same kind of uniform their men wear, or wearing a service coat which can be quickly put on and taken off. The customer won't know the "boss" is waiting on him unless he inquires.

One jobber gave as added reason for maintaining his office at his key service station that, when he formerly visited the station, even though he might come in two or three times a day, he felt the men "were on dress parade", and that he could not observe the station under its normal operations. When he moved his office to a room back of the station salesroom and it was recognized as his headquarters, he said the men soon went about their duties in the usual manner, whether he was there or not, and thus he had a better opportunity to study the routine functioning of the station.

Harry Fee, of the Harry Fee Oil Co. of Waterloo, has two 110-gallon tanks mounted at one side of one of his service stations, from which he sells white gasoline and naphtha. He says there is a good business in white gasoline since leaded third-grade motor fuel came in. The tanks are red, neatly painted, as is the box alongside in which containers are kept for dispensing from these tanks

JOBBERS in Iowa put in about all their time directing sales, because, under the present relationship of the oil marketing company and its supplier, nearly all of them buy on contract. So they do not need to give the time to study of wholesale gasoline market trends, as did the jobbers of 15 or 20 years ago—and Iowa was the birthplace of some of the first big independent oil jobbers, some of whom were big enough to buy a trainload of gasoline on the spot market at a time.

The gasoline gallonage of the present independent jobber in Iowa is small and while his business in tractor fuel, kerosine and heating oil may be relatively large, still all told not much supervision is needed to check bulk products through the plant each month. The jobbers receive an increasing proportion of their lubricating oils in cans and drums and very few buy in tank car lots. Their inventory of tires and batteries and other automotive merchandise is generally carried at a service station.

Their customers don't come to the bulk plant to pay a bill in most cases, even though the jobber may have his headquarters there, but will leave their check or cash at the service station where they trade, so the Iowa jobber finds it more convenient to keep in touch with this class of his trade, and to be on hand to adjust any dispute over the amount of the bill, or any other question, when his office is at his key service station.

As in other states, the Iowa jobbers are also giving more thought to taking back some at least of their leased-out stations, to operate under their own direct management. Some of them in fact never leased out any of their stations under the Iowa Plan. The rate of tax in the chain store law is almost nominal on a small number of stations. These jobbers have felt all along that there are advantages in the direct operation of stations that more than offset the responsibilities in their relations with their station men which ensue from direct operation.

BY and large, the independent jobbers are satisfied to see the dealer marketing plan kept in effect by the large companies. Under it, they feel they can take back such of their stations as they want to carry under their own management and the rest can still be operated under the same type of management as those of the large oil companies. Some of the Iowa jobbers say that their investment in service stations and the equipment there today is so much that they do not feel they can afford to lease those stations to operators on the same terms that the large companies have leased their stations and, on the other hand, they cannot find operators who would pay a rental commensurate with the investment in the station. So they felt there was nothing left for them to do but run the stations themselves and build up the sales to the point they were profitable.

The difference in the appearance and housekeeping at direct-operated stations, as compared with those leased out under the dealer marketing plan, is strikingly apparent at Waterloo, a town of 50,000 population in the northeastern part of Iowa. Here for illustration, seven stations of the Bartles-Shepherd Oil Co. are under direct company operations, three of the Harry Fee Oil Co. and two of the Mid-Continent Petroleum Corp., among others. The standard of housekeeping at these stations is far superior to that gen-

erally found at leased stations and it has pulled up the housekeeping at a large proportion of the leased stations to the point that this visitor, on driving around the town on a recent Sunday, thought there must have been some sort of contest there with prizes for the stations making the best appearance. The operators, however, said there was nothing unusual in this respect.

The Bartles-Shepherd company sells its own Northland brand of motor fuel. It is one of the long established jobbing companies in this state but it has some new and striking modern stations. It is a member of the Sovereign Service group plan.

As far as the general effect of the Iowa or dealer marketing plan is concerned, the principal comment heard from independent jobbers in a 1000-mile trip around the state was their objection to the practice of the large oil companies in reducing their tank wagon price to the local dealer, to allow him to meet cut-price competition in his neighborhood. In the minds of the jobbers this not only tends to lengthen the period of local price disturbances but also shows the interest of the large oil companies in the retail gasoline price structure.

This latter point has been taken up by the Independent Business Mens Association of Iowa, a state organization with headquarters at Des Moines, which has asked the state tax commission to investigate whether oil companies, among other firms, are not under the chain store law. The organization says that the practice of oil companies in reducing the dealer's tank wagon price locally and the provision in their leases for cancellation of the dealer's contract on short notice, in its mind, indicates "control" over the stations, which should bring them under the chain store law.

Some of the independent jobbers think a benefit of the dealer marketing plan has been that it has made the public lose consciousness of any prevailing retail price and that, as a consequence, it ought to make it easier for the jobber's stations to get their price, even though that price is higher than at other stations. Such a variety of retail prices prevail, particularly in the larger towns, they say, that the public doesn't think of any one figure as setting the price. One jobber, after an argument with another on this point, stopped 12 customers driving out of one of the latter jobber's stations and asked them what price per gallon they had just paid for gasoline. Only two could tell, he said.

Iowa's Farms Provide Market For Many Oil Products

The fact their businesses are located in the biggest corn belt in the world and in what the Des Moines Industrial Committee calls "the richest agricultural area of its size in the world," has added to the markets of the Iowa jobbers for gasoline and motor oil and it has created markets for other products also which some of these jobbers are serving profitably.

Iowa's gross farm income in 1938 was over $540,000,000, as against total gross farm income in the U. S. of $9,983,000,000. It was exceeded only by Texas and California. There are 651,840 automobiles in the state and 94,232 trucks, a large proportion owned by farmers. There are over 133,000 tractors in the state. Three-quarters of the farms have radios. There is a telephone for every five persons in the state, as against one for every seven for the entire country.

A 200-acre farm in Iowa often provides a market for oil products of $500 a year or more and will consume around 2500 gallons of gasoline in the passenger car, the light truck and the tractor the farm operates and the stationary gasoline engine which provides power for lighting, and for pumping water. It is also a market for kerosine, for stoves, heaters, incubators and to operate refrigerators.

White gasoline is supplied to many Iowa farms by the oil jobbers. Many farmers prefer this for tractor fuel, particularly in the older type tractors, to lead-treated gasoline. According to some jobbers, the timing on these tractors is set so that they work better on the white gasoline. This gasoline is also used in cook stoves on many farms. Distillate from tractor fuel is also sold by many jobbers.

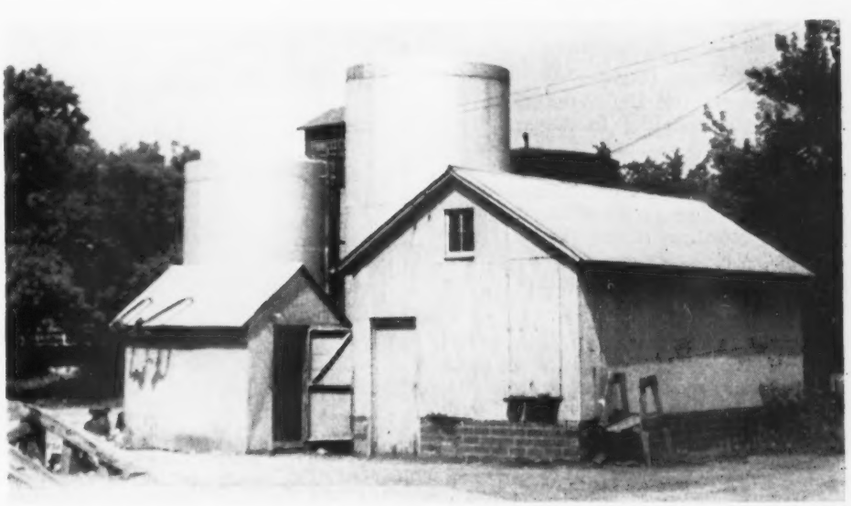
A few Iowa jobbers have made money selling tractor tires, but they do not look on this as offering many opportunities for the future. A large percentage of tractors are now sold equipped with rubber tires. Farmers who the past year or so could be sold on having the steel rims of their old tractors cut down and fitted with rubber tires, are now considering trading their old tractors in for new ones that come from the factory with rubber tires. Also, the jobbers say, the tire companies are selling their old model tractor tires at such cut prices that there is no margin left for the jobber in handling them. One marketer said recently he lost the sale of two tractor tires on which he had cut his margin to $10, and the total sale would have amounted to about $150.

One Iowa jobber has sold enough tractor tires, however, mostly to replace steel rims on tractors in his territory, that he is in the running in a sales contest put on by his tire supplier in which the prize is a trip to the New York Fair. He sends the wheels to an outside shop to be cut down and makes a little profit in this operation also, in his price to the farmer, as well as on the two tires he sells.

This same jobber also has found a profitable market in selling batteries to farms for lighting sets. These batteries sell in sets of 16 and have to be replaced in five years but a set sells for around $60, he says.

Stock spray is a profitable item handled by many Iowa jobbers. It is similar to the insect spray for household use and is applied with the same inexpensive type of spray gun; but on dairy farms particularly, jobbers say as much as 25 to 30 gallons a year may be used, while the small farms will use three or four gallons a year. It sells to the farmer at from 80 cents to $1 a gallon and is an easy item for the tank truck salesman to carry with him.

Many jobbers in this state are developing profitably also the general market on the farm for greases and



Since deliveries to the independent marketers in Iowa are almost entirely by tank car, many marketers have two or three bulk plants of this type, rather than one large plant. Many of these plants have storage capacity for only 40,000 or 50,000 gallons, but nevertheless are kept in good condition

Comparisons of Gasoline Gallonage by Marketing Groups in Iowa. For 1938 with 1937

(From data of Oil Marketers Service Association)

Year	Integrated Companies	"Co-ops" and Farm Bureaus	Tank Car Consumers	Jobbers	Total By Counties
1937	304,185,652	33,197,004	11,924,071	159,512,835	508,819,562
1938	315,797,043	35,338,232	12,059,568	179,190,115	532,384,958
% Increase	3.8%	6.4%	1.1%	12.3%	4.6%

In this compilation, totals for the state vary slightly from the report on taxed gasoline volume as issued by the American Petroleum Institute. Their figure for 1937 is 495,896,000 and for 1938, 528,091,000 gallons.

lubricating oils, even to the axle grease the average man connects with the "horse and buggy" days. One jobber with a gasoline gallonage of less than 400,000 gallons a year buys lubricating oil in tank car lots, principally to serve his farm trade.

Not only the farms in Iowa but the numerous prosperous towns and small villages provide a good market for heating oils and for "bottled gas," the liquefied natural gas which is sold as a liquid under pressure in special containers and, expanded into a gas in the consumer's piping system, is used for fuel for cooking and water heating and for a number of commercial purposes also.

Iowa is among the leading states in the consumption of gas oil and distillate and a principal use is in home heating. The great majority of independent jobbers there, even in the very small towns, handle this product. Few of them, except in the larger towns, sell burners but they service burners and they say their problems here are being much simplified because of the improved quality of the heating oils being made now by the principal suppliers.

In Cedar Rapids, the Home Oil & Gas Co. is more active in selling heating and industrial fuel oils than in handling gasoline. It sells a domestic oil burner and various types of industrial burners and also sells complete air conditioning units for homes. The company says there is not a great deal of profit in selling and installing the unit, largely because of the high union scale of wages for tinsmiths, but that it felt it had to get into this line of business to protect its heating oil trade. The company lets out the duct work but looks after the general installation and maintenance of the unit.

One Iowa jobber, the Harms Oil Co., at Allison, is operating a bottling plant, where the liquefied propane, one fraction of natural gas and also produced from refinery gases, is received in tank cars and transferred to the 90-pound and 20-pound steel containers in which it is supplied to the consuming trade. The Harms Oil Co. supplies the containers to dealers—mostly the electric or gas appliance man in the community—who resell the "bottled gas" to consumers. The product is sold by pounds, instead of gallons. It has all the conveniences for the householder of natural gas and can be used by the average family for cooking for around $3 a month. There are said to be now operating in Iowa 12 plants for "bottling" the liquefied gas, most of them owned by the larger oil companies, who manufacture the product in part from what was formerly waste gas at their refineries.

to secure the introduction in the state legislature of a proposal to remove the state aid from the farm bureaus where affiliation with a "co-op" oil company was shown. As could be expected, this never got very far, however.

The "co-ops" in Iowa differ widely in their operating and merchandising policies. Some sell a national brand gasoline and serve as the wholesale distributor of that brand in the county, while others sell an unbranded motor fuel. Some have their headquarters in a service station on a good highway location in the community and merchandise a wide line of goods. In other cases the "co-op" station is at an out of the way location on the same property as the storage tanks along the railroad right of way and only tires and a few automotive necessities are carried.

In all cases, however, the Iowa "co-ops" pay their stockholders patronage dividends, based on the volume of their purchases over the year. Due to the narrow margins in oil marketing the last few years, the amount of these patronage dividends is much less than formerly. With some of the "co-ops" the jobbers say the patronage dividend will not amount to much more than one cent a gallon for last year's operations. An accompanying table discloses that the "co-ops" and farm bureaus do a relatively small part of the gasoline marketing business in Iowa and that their increase in gallonage in 1938 from 1937 was much smaller than for the jobbers.

The jobbers have found that the superior service they are able to offer their customers and their knowledge of their products, which insures their consistent quality, is their best sales argument in competition with the "co-ops." One jobber found this successful method of holding his farm trade when a "co-op" was organized in his county. He visited his customers himself and told them he would keep their tank

Dividends Of Farm Bureau Oil "Co-Ops" Dwindled

The affiliation between the county farm bureaus and the co-operative oil marketing companies in Iowa is not as apparent as in some states, but it nevertheless exists. A state law provides funds for the farm bureaus, said by jobbers to be up to $4000 annually in some counties, where they are not engaged in business for a profit. Hence the separate organization of the oil "co-ops."

Their managers explain that members of the farm bureau have been solicited as stockholders in the oil "co-op" only to the same degree as outsiders and that they have no more privileges. In many cases, however, the oil storage tanks of the "co-op" are on the property of the farm bureau and in some cases the manager of the county farm bureau also runs the "co-op" oil company and the same office help is used. There have been efforts

Gasoline Gallonage of Principal Companies in Iowa for 1937 and 1938 and Percentage Change

(From data of Oil Marketers Service Association)

Company	1937	1938	Percentage Change
Barnsdall Refining Co.	3,158,749	3,096,902	1.96*
Champlin Refining Co.	4,953,082	2,297,757	53.61*
Cities Service Oil Co.	12,069,924	12,245,775	1.46
Continental Oil Co.	10,074,900	10,975,729	8.95
Deep Rock Oil Corp.	3,924,302	4,536,466	15.60
Mid-Continent Petroleum Corp.	35,226,851	39,829,731	13.07
National Refining Co.	3,262,547	3,717,868	13.95
Phillips Petroleum Co.	36,734,309	37,984,174	3.40
Pure Oil Co.	282,876	1,652,076	483.98
Shell Petroleum Corp.	22,638,718	18,353,395	18.93*
Sinclair Refining Co.	21,297,315	23,376,399	9.76
Skelly Oil Co.	19,384,103	20,941,531	8.04
Socony-Vacuum Oil Co.	6,595,470	6,745,957	2.28
Standard Oil Co. (Ind.)	98,921,189	104,279,448	5.42
The Texas Co.	9,762,684	10,287,374	5.37
Total 15 companies	288,287,019	300,320,582	4.17
Balance other companies	202,391,467	227,425,954	12.35
Grand Total	490,678,486	527,756,536	7.58

*Decrease. Decreases in gallonage in 1938 shown by Champlin Refining Co. and Shell Petroleum Corp., and Barnsdall Refining are due to the leasing out of bulk plants by these companies, the gasoline tax being paid by the jobber or other lessee in place of the supplying company direct.

"It will pay—regardless"

Here's a refiner with a Dubbscracking unit rated at 800 barrels a day It is running 900 barrels but still he can't make as much Dubbscracked gasoline as his customers want

He writes U O P:

We realize that a second coil can be added (to the Dubbs unit) to increase capacity but in view of the development in catalytic cracking and other processes*** we are wondering whether it would be a wise move to add the second coil now We would appreciate your advice

And here is our advice to him:

We think it would be a good move at the present time if you require more gasoline to install the new heater We believe such a heater would pay its own way regardless of developments along the line of catalytic cracking

There's something for every refiner to consider

Sales of Dubbscracked gasoline are growing That's why Dubbs units are built with an eye to future expansion

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

wagon tickets separate and at the end of the year he would pay them the same amount of refund on their business as the local "co-op" paid in patronage dividends. This jobber said that the first year this cost him 1.5 cents a gallon, the next year three-quarters cent and last year nothing at all. And he held his country business.

Local Distributors Increase As Majors Lease Bulk Plants

In 1938, the number of distributors paying license fees for importing gasoline into Iowa was 936, as shown by the annual gasoline tax report. This number includes 15 integrated oil companies, tank car consumers, farm bureau oil companies, trackside stations and independent jobbers. Secretary Gienapp of the Iowa oil jobbers' association places the number of independent marketers at 775. This is a wide definition, including tracksides and farm "co-op" oil companies as well as local wholesale marketing companies. The large majority of the independent marketing companies have a gasoline gallonage, as shown on the tax reports, of less than 200,000 gallons a year; but their volume of business in heating oils, tractor fuels and kerosine in many cases is relatively larger than with the average oil jobbing company over the country.

A rough tally on independent companies as to gallonage shows 20 with gasoline volume of between 1,000,000 and 5,000,000 gallons a year, 60 with 500,000 to 1,000,000 gallons, 105 with between 200,000 and 500,000 gallons, which leaves 575 with an annual gasoline business of less than 200,000 gallons.

Even with the large number of marketing companies, which operate a total of 2500 bulk plants over the state, the number of jobbing companies is increasing says M. L. Long of Des Moines, former secretary of the state jobbers' association, who now operates the Oil Marketers Service Association and compiles an annual report on Iowa gasoline gallonage by counties. He states that 65 to 70 new companies started in business within the past year and that a few new bulk plants were put up.

Investigation of some of these new jobbing companies shows they are the lessees of the bulk plants and wholesale marketing business at various points of some of the integrated oil companies. The Shell Oil Co., in the early part of last year withdrew from operating its own bulk plants throughout the state. It leased out its wholesale operations at Des Moines, for example, where it had close to 3,000,000 gallons of gasoline business in 1937. Champlin Refining Co., has leased out practically all its bulk plants and service stations in the state. Socony-Vacuum Oil Co., has leased some of its bulk plants also, as have Mid-Continent Petroleum Corp., and a few other companies in some cases. In some instances Shell Oil Co. salesmen who had been representing the company in the state, set up their own companies and leased the company's bulk plants and started out as independent wholesalers, handling of course Shell products.

The arrangements by which individuals or companies have leased the majors' bulk plants calls for the lessee buying his gasoline on the same terms as the jobbers with their own properties, it is stated, in general allowing a 5.5-cent a gallon margin. A flat rental is paid for the bulk plant properties, the trucks in most cases are supplied by the lessee, and the oil company's owned service stations are taken over on such arrangements as the company and the lessee can work out. The most difficulty has come, it is stated, in arranging a basis by which the lessee would take over the stations under lease by the oil company. Where the company has leased a station property at one figure and then subleased it to an operator at a smaller amount, the individual or company leasing the bulk plant and stations of the oil company has taken the position the difference in the amounts of the leases should be absorbed by the oil company.

Another difficulty has been in finding individuals with enough capital to pay for the inventories of stocks at the bulk plants necessary to operate the business. In some cases these leasing arrangements, however, have worked out satisfactorily enough that the lessee at one point has later taken over the bulk plant and stations of the company at some nearby point. Independent jobbers handling the products of a major supplier successfully at one point have also been approached by the supplier to take over under lease its facilities at other points.

The effect of the leasing of the integrated oil companies' facilities by separate companies shows up in the larger relative gain for the jobbers' gallonage in the state in 1938, over 1937, as compared with other types of wholesalers. An accompanying table, based on Mr. Long's county gallonage reports, shows the jobbers enjoyed an increase of over 12 per cent in their gallonage in 1938, the total being 179,190,000 gallons. Some of this was gallonage which in 1937 appeared in the tax figures under the major company's name. The same tabulation shows that major companies gained 3.8 per cent in gallonage in 1938, the "co-ops" and farm bureaus 6.4 per cent and tank car consumers only one per cent. The entire gain for the state was 4.6 per cent.

Transport Trucking Limited In Most Parts of Iowa

As compared with the practice in some other states, there is relatively little transport trucking of gasoline or other products in Iowa, by either the integrated or independent marketing companies. The Shell Oil Co. and Socony-Vacuum Oil Co. have water terminals at Bettendorf on the Mississippi and truck to their own bulk plants in the extreme eastern part of the state. The Great Lakes Pipe Line Co., the gasoline line from the Mid-Continent, has terminals at Coralville, near Iowa City, at Des Moines, and at Omaha and some of the integrated companies transport by truck from these terminals into limited areas in Iowa. Much material is moved from the pipeline terminals by tank car, however.

The companies with water terminals and those owning the gasoline pipe line will not offer any price concession to the independent marketers who want to buy in their own transport trucks. Representatives of these integrated companies say that, if they sold to the reputable independent marketers from the terminals, they would also have to sell to less responsible companies who might sell from their transport trucks direct to service stations and to some of the big farm accounts and that a demoralized price condition could easily result.

The gasoline price structure in Iowa for many years has been based on the rail freight rate from the Mid-Continent to specific points in Iowa, and prices are determined by the leading marketing company there, Standard Oil Co. of Indiana, down to tenths of a cent a gallon. Independent marketers also buy their gasoline on contracts in which one of the price factors is the freight rate from the Mid-Continent. With a gasoline price structure throughout the state as closely in balance with the freight rate, it is easy to see where transport trucking could bring about an unsettled price situation, some jobbers say.

In the southwest corner of the state, there are 35 or 40 companies or individuals, including some oil companies, which are trucking their gasoline 200

to 250 miles from the Kansas City district principally. Those marketers so transporting their gasoline found, where they sold a branded product, that the supplying companies would not allow them a price at the truck loading terminal which would give them the full saving they had figured on between their freight rate and their trucking cost. At least one jobber is said to have given up his transport trucks, realizing that, with his gallonage, he had to secure outside customers to operate his trucks efficiently and that he was then becoming more of a truck transport than a gasoline marketer.

Many of the jobbers in this section feel that they will have to meet cut price competition if trucking becomes more widespread and they fear that the truckers may not only supply service stations direct but that they may also go to some of the large farm accounts and offer to supply them direct.

The use of meters at bulk plants and on trucks for heating oil deliveries is growing with the larger independent marketers.

For example, the Home Oil Co. of Atlantic, found its bulk plant operations were simplified when it installed a meter which also printed delivery tickets in duplicate, at its gasoline loading rack. Charles Starr, head of this company, said that truck drivers were coming to the bulk plant at various times during the day and a man had to be on hand to check their loadings. The company installed the meter, put a box beside it, and the driver takes out his load and takes the tickets from the meter, keeping one copy and leaving one in the box. The company collects the meter tickets once a day and has a record of the loadings of one grade of gasoline, which must balance in total with the reading of the meter at the start of the day and the stock at the close of business.

Truck loadings are checked by meter at the bulk plant at Waterloo of the Bartles-Shepherd Oil Co. and good housekeeping is apparent throughout the plant

Driving Your Own Car Cheapest Way To Travel

WASHINGTON — Driving an automobile is still by far the cheapest way to make a trip, where more than one person is in the car, despite lower railroad and bus fares, the American Automobile Association reports in a study entitled "What Does It Cost to Drive?"

Automobile mileage operating costs vary from 2.18 to 2.94 cents per mile, depending on whether a light or a heavy car is driven, according to the study. These costs include gasoline, oil, tires and repairs. They do not include costs which are not based on mileage, such as depreciation, insurance, interest on investment, license cost and storage.

However, actual road expenditures for the motor tourist, the study shows, amount to between 1.5 and 2 cents per mile, it is brought out, for as a rule the cost of tires and repair work does not enter into the out-of-pocket expenses of a trip.

"Mileage element costs" in cents per mile for the various types of cars, in the AAA report are:

	Light	Medium	Heavy	Composite
	(Cents Per Mile)			
Gasoline	1.25	1.54	1.67	1.32
Oil	.19	.16	.22	.19
Tires	.21	.31	.40	.23
Repairs	.53	.60	.65	.56
Total	2.18	2.61	2.94	2.30

"On the average trip, if the car has been well prepared in advance no expenditure should be necessary for repairs or tires," the AAA says. "However, the above table, by taking these two items into consideration, makes it possible to compute the mileage cost on the basis of average, all-year experience. While these figures are fairly representative for the nation as a whole, it should be borne in mind that mileage costs vary in different parts of the country; they vary with the average speed (slow driving more economical); and they vary with other factors."

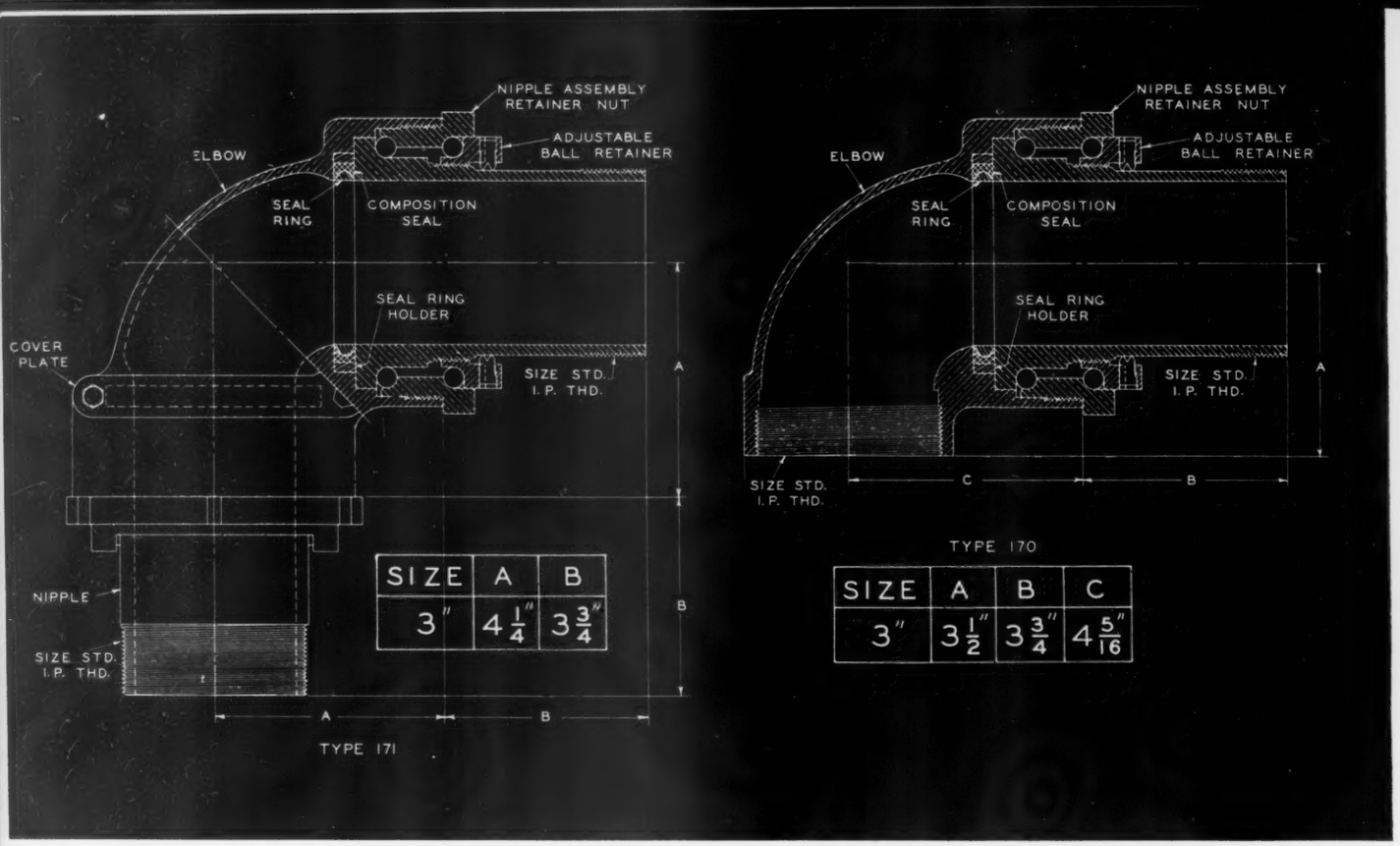
On an extended motor tour, however, mileage costs are only one item of expense, it is shown, other principal items being food and lodging. Because of the wide variations between types of accommodations and appetites, the association study reports that it is difficult to set an average figure for these costs.

A table on total operating costs for passenger vehicles prepared by the Oregon State Highway Department shows an average cents per mile operating cost of 4.14 for a light car, 6.16 cents per mile for a medium car, and 7.94 cents per mile for a heavy car, or a composite operating cost of 4.76 cents per mile.

The Oregon Highway Department's table which lists mileage costs, and non-mileage costs, follows:

Operating Costs for Passenger Vehicles

Basic Data	Light	Medium	Heavy	Composite
List weight (lbs.)	2,600	3,200	3,900	2,800
Cost new	$625	$1,400	$2,000	$840
Mileage Element Costs				
Gas, 20c per gal.	1.25c	1.54c	1.67c	1.32c
Oil, 25c per quart	0.19	0.16	0.22	0.19
Tires and tubes	0.21	0.31	0.40	0.23
Maintenance	0.53	0.60	0.65	0.56
Depreciation*	0.67	1.50	2.14	0.91
TOTAL	2.85	4.11	5.08	3.21
Non-Mileage Element Costs		(Dollars per year)		
Depreciation	$23.41	$52.50	$75.00	$32.20
License	5.00	5.00	5.00	5.00
Garage storage	36.00	36.00	36.00	36.00
Interest	18.72	42.00	60.00	25.50
Insurance	7.20	8.00	25.00	10.00
Total	$90.33	$143.50	$201.00	$108.70
TOTAL OPERATING COSTS:				
Cents per mile	4.14c	6.16c	7.94c	4.76c
Dollars per year	$289.80	$431.20	$555.80	$333.20



Here's a Swing Joint That Can Be Repacked in Five Minutes

Without Removing It From The Line

Type 171
Heavy Duty
Swing Joint

New and exclusive features make these Wheaton Heavy Duty Ball Bearing Swing Joints *easier to operate* and *easier to maintain* than any other type of swing joint. A double row of ball bearings, and the use of a composition packing seal instead of packing, give them the easiest and smoothest swinging action known.

Maintenance is made easier and quicker because the joints can be repacked while in the line. The composition packing can be easily removed and replaced in five minutes—without removing the loading arm from the piping. And compensation for wear in the ball races can be quickly regulated by simply tightening the adjustable ball retainer nut.

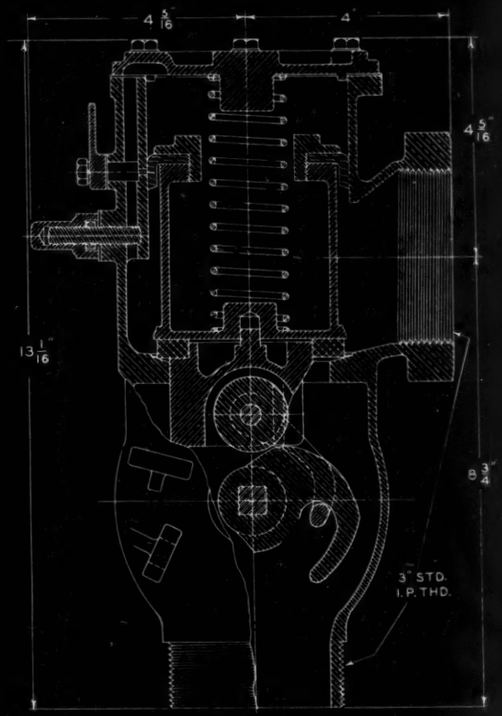
Greater ease in both operation and maintenance—less wear on joints and piping—a saving in repairs, time and money—these are the reasons why it *pays* to have Wheaton Swing Joints on every pipe line.

A. W. WHEATON BRASS WORKS, NEWARK, NEW JERSEY

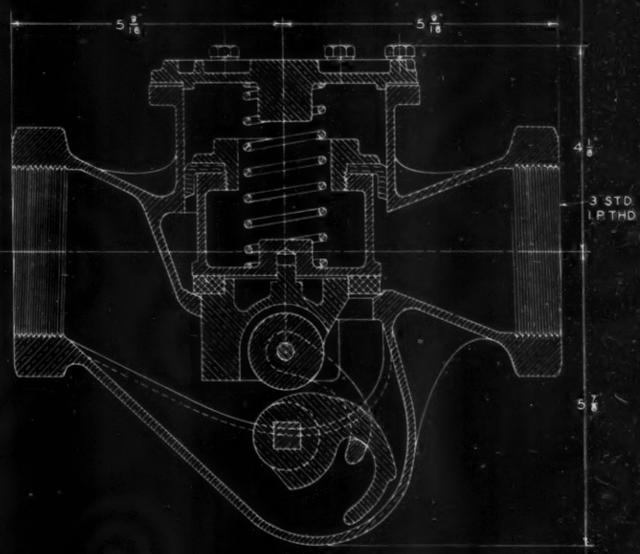
Wheaton

Factory Representatives: William A. Knapp Co., 1626 Walnut St., Kansas City, Mo. ● *Earl F. Sayers, 1425 So. Michigan Ave., Chicago, Ill.* ● *Goodall-Mechanical Corp.*

FAUCETS • VALVES • JOINTS • COUPLINGS • FILLERS • NOZZLES • FITTINGS



SECTION A-A
TYPE 225



TYPE 226

These Loading Valves Give a Fast Flow Without Hammer

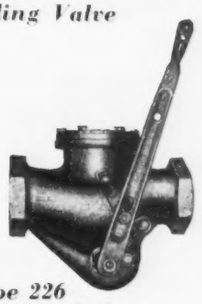
Regardless of Pressure or Velocity

You want *fast flow* in a loading valve—but you want it without hammer. And that is what these new Wheaton Loading Valves give you. Tests on various types of installations for six months to a year prove: (1) They permit an extremely fast flow because the streamlined valve body prevents restriction; (2) They completely eliminate hammer regardless of operating pressure or velocity.

Easy opening, regardless of line pressure, is assured by a perfectly developed cam which operates against a roller on the bottom of the valve plunger. The cam is enclosed in a cam control which permits the valve to be forced closed manually if it fails to close automatically. The stuffing box is on the non-pressure side to prevent leakage when the valve is closed. Both valves can be externally regulated to provide perfect operation on either pump or gravity installations, or for liquids of various viscosities.

A. W. WHEATON BRASS WORKS, NEWARK, NEW JERSEY

Type 225 Loading Valve



Type 226 Loading Valve

Wheaton

Los Angeles and San Francisco, Cal.; Seattle, Wash.; Salt Lake City, Utah; Phoenix, Arizona ● *Canadian Mfrs. and Distributors: Empire Brass Mfg. Co. Ltd., London, Ont.*

FAUCETS • VALVES • JOINTS • COUPLINGS • FILLERS • NOZZLES • FITTINGS

5,000,000-Gallon Throughput

The arrangement of this oil storage plant of Blau Oils, Inc., at Minneapolis and its modern equipment is such that 5,000,000 gallons annually of oil products, including several grades of lubricating oil, are handled without the services of a full-time yard or warehouse man. All products handled in bulk, including lubricating oils, are metered when deliveries are made

FIVE employes and the owner of the business, with an additional truck driver in the winter, do all the work of unloading tank cars, loading and operating trucks and the accounting, at a bulk plant in Minneapolis which has an annual throughput of about 5,000,000 gallons. Here's how:

The layout of the plant makes for efficiency in the movement of oil products, with a minimum of labor.

Central location of the truck loading rack makes it convenient to warehouse and office, and trucks can load on both sides.

Use of meters on the truck loading rack saves time in loading trucks, insures accuracy and simplifies the plant accounting.

Use of a pre-set meter on the lubricating oil fill line enables drums to be filled accurately and automatically.

An automatic office heating system also provides steam for plant use, and warehouse and garage are heated by thermostatically controlled unit heaters.

Meters on the fuel oil trucks save drivers' time and also simplify accounting.

This is the plant of Blau Oils, Inc., Minneapolis jobber. After three years of operation of the new plant, J. J. Blau, president of the company, reports he has not found any faults in the lay-out and adds, if rebuilding were necessary, "I would not change a single thing."

The plant staff that handles this 5,000,000 gallons of products a year consists of three drivers, accountant, office girl, and Mr. Blau. During the fuel oil season there is an additional truck driver. The drivers unload tank cars, and with the heating plant fully automatic, a full time plant man is not required.

The plant is in three major divisions —the warehouse, office and garage building; truck loading rack and pump house; and the tank yard. Features of the layout and equipment in the plant are:

The Warehouse

Walls of concrete block, with cement floors; office section of brick.

Office is in front, at ground level. Warehouse, for bulk lubricating oil storage and package goods, is in the center section, floor elevated to truck platform height. Garage, four truck capacity, is at ground level at the rear. Fire doors separate the three sections.

Roof of the central warehouse section is high and gabled, so that, if oil canning equipment is installed later a balcony can be built for can storage, and cans rolled by gravity to the filling machine.

Basement under the office section houses the heating plant, an oil burner firing a Scotch marine boiler. Steam is required for heating fuel oil at the truck loading rack and the office. The warehouse has two unit heaters, truck garage one, all thermostatically controlled to maintain a minimum 60 degree temperature.

Lubricating Oil Storage

Ten rectangular tanks in a rear corner of the warehouse section, each 2500 gallons capacity, set on concrete piers three feet above floor level.

Railroad spur for spotting tank cars of lubricating oil is at the side of the warehouse section, with two unloading lines. The rotary pump by the storage

And No Yardman on Payroll

tanks has about a 12-foot pull, and unloads 6000 gallons of oil in 65 minutes.

Each lubricating oil tank has two lines and a quick shut off valve, so oils can be blended in the tanks and stocks transferred.

Outlet lines are manifolded to the pre-set meter, located near the center of the tank battery.

Lubricating oils are pumped to drums or containers through inch and a half lines. Gravity movement was found too slow.

Truck Loading Rack

Construction fireproof, of concrete block, cement floors and steel beam supports for roof. No wood used throughout. Steel roof has canopies on both sides over the drives to protect employes and truck equipment.

Platforms on both sides and steps are concrete. Doors on each side of building enable employes to move from one platform to the other without leaving the rack.

All lights vapor proof. Switches are in the warehouse building, with remote controls on the loading rack.

Other safety precautions to prevent vapors accumulating at truck rack: louvers in the side walls at ground level; fan in the center of the roof; air ducts in each corner on the inside of the building, opening at floor level and venting at the eaves.

Two, twin unit pumps for unloading tank cars and loading trucks are at ground level; one unit pumps gasoline, one fuel oil.

Dials for the meters are in the windows of the truck rack building, at a convenient height for reading from the platform. Each dial has an extension face to the window on the opposite platform. One meter measures gasoline to trucks, another fuel oil.

All lines are identified by color, red for gasoline, green for fuel oil.

The Tank Yard

Nine vertical tanks, total capacity about 500,000 gallons.

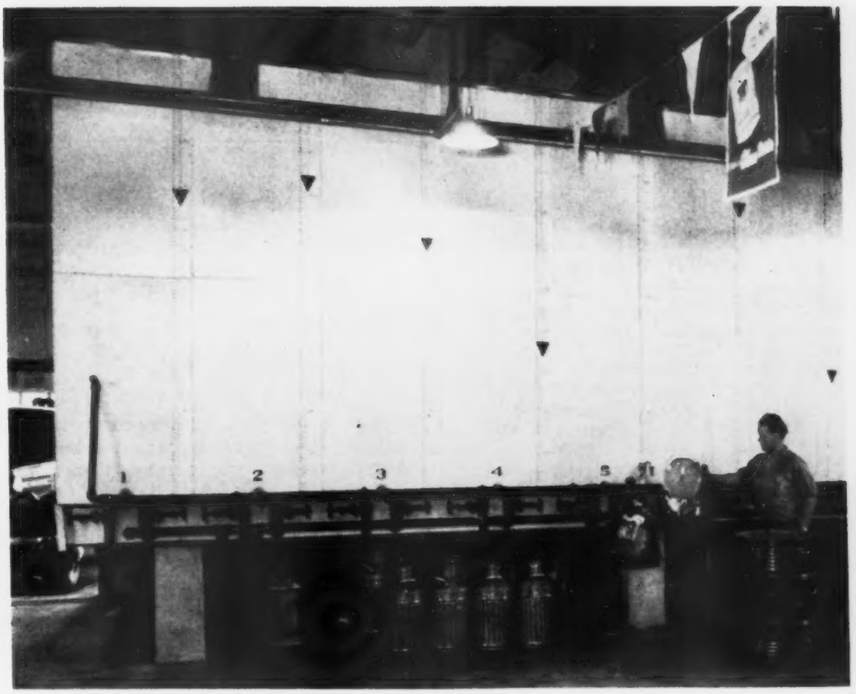
Products stored, Ethyl, regular, leaded third grade, white third grade gasolines, and Nos. 1, 2, and 3 fuel oils.

All tanks equipped with gauges and pressure vents.

Tank yard enclosed in concrete dike. All lines 2-inch.

Fuel oils are heated at truck loading dock, the oil passing over steam coils in four heater tanks. Steam line from basement boiler plant is enclosed in conduit so, if repairs are necessary, the line can be disconnected and pulled out instead of being excavated.

The spur skirts the side of the tank yard, coming up to the lubricating oil unloading spot beside the warehouse building. There are four spots for unloading gasoline and fuel oil and two spots for unloading lubricating oils; each spot has two unloading arms.



Part of the battery of ten, 2500-gallon tanks for bulk storage of lubricating oils at the Blau Oils, Inc., plant at Minneapolis, showing the manifolding system and preset meter, by means of which drums and containers are accurately and automatically filled

The truck loading rack at this plant was designed so that facilities can be expanded without altering the building. The present two twin pumping units occupy but half the floor space and wiring for additional units, including remote control switches, was installed when the plant was built. To increase pumping capacity it would be necessary only to drop the pumps in place, and make the pipe and electrical connections.

All bulk products, including lubricating oils are metered from the plant. The plant meters and those on the trucks provide the office with a continuous record of withdrawals and deliveries, and the plant is operated on a perpetual inventory basis.

The lubricating oil fill line meter also speeds loading of trucks. If a driver has a bulk lubricating oil order to deliver, the container is rolled into place, the meter set for the quantity ordered and the valve opened. Then the driver is free to fill his truck at the loading rack, as the "lube" oil meter will shut off automatically when delivery is completed.

The Blau plant operates with four delivery trucks, three of 1500 gallon and one of 1000 gallons capacity. Three trucks are equipped with preset, ticket printer meters, the fourth is stand-by equipment. In the winter the 1000 gallon and one 1500-gallon capacity truck are used in fuel oil delivery service. In the summer the fuel oil trucks are cleaned by steaming and placed in gasoline delivery service. The company's delivery policy is a minimum dump of 200 gallons of fuel oil, unless another order is received from the same neighborhood, then the minimum dump is 100 gallons.

Meters on the fuel oil trucks have eliminated complaints of shortage and damage to lawns, Mr. Blau reports. Two years ago one truck in fuel oil service was meter equipped, while the other truck operated without a meter. A check of complaints showed that most of the difficulties were reported on the truck not meter equipped. During the past heating oil season both trucks were meter equipped, and the company did not have a single complaint.

U. S. Weather Reports

Weather reports can be made a salesman for motor oil changes, now that expected temperatures in which a car will be driven, rather than the "seasons," have been accepted by car makers and oil companies as the basis for determining the SAE viscosity number oil to be used

THE daily newspaper's U. S. weather report now is a guide and salesman for motor oil at service stations.

When the predicted weather is read in conjunction with a table of temperatures as to when crank case oil should be changed, it is the best proof the scientists of the automobile industry have yet devised that the motorist should at once buy some new oil if necessary to make his oil conform to their recommendations.

This formula for selling motor oil change, based on expected driving temperatures has the highest of scientific approval. It was devised and has been issued by none other than that outstanding organization the Society of Automotive Engineers, which holds the greatest of scientists on the internal combustion engine of the world.

This recommendation—to make your oil change conform to the prediction of the weather bureau—takes the place of the old formula of changing roughly and solely by "seasons."

Last winter the SAE announced standard temperature ranges at which motor oils of different viscosities were liable to be needed. At present the auto manufacturers and the lubricating oil manufacturers have generally adopted these temperature ranges and have stated the SAE motor oil classification by viscosity number that applies for these ranges. The SAE temperature ranges are:

1—When the lowest expected temperature is less than −10 Fahr.

2—When the lowest expected temperature is −10 Fahr.

3—When the lowest expected temperature is +10 Fahr.

4—When the lowest expected temperature is +32 Fahr.

5—When the expected daytime temperature is +90 Fahr. or over.

The automobile and oil company engineers and chemists, who worked out these temperature ranges under the auspices of the SAE Standards Committee, point out that, under these ranges, two viscosities of motor oil will still take care of the needs of most engines in any particular section of the country.

Some of the oil company motor oil sales departments say, however, that the emphasizing of the importance of the atmospheric temperatures at which the car is to be driven for the coming few weeks, offers an opportunity to the alert station salesman to sell more oil changes. This is particularly the case, they say, in the spring and fall of the year, when the motorist may not need a change according to his speedometer reading but may not have the proper grade to use until the time comes for his general seasonal changeover.

The station man should not assume, oil company technologists say, that the motorist, having made the change from winter to summer grade or vice versa, is insured that he has the proper grade of oil in his crankcase, under all temperature conditions he may experience in driving, until the time comes to make the seasonal change again.

For example, tourists driving into an entirely new section of the country may need an oil change to insure proper lubrication at the prevailing temperatures in the territory they are visiting. An inexpensive thermometer, hung at the station where it can be read by the station salesmen and motorists, can be made a valuable sales help, it is said.

The adoption of standard temperature ranges at which the SAE motor oil classifications apply also helps the station men by eliminating the confusion which formerly existed in some cases between the recommendations of the oil companies and the car manufacturers.

Another aid is said to be that the station salesman can bring to the attention of the motorist who likes to argue the point over what grade of oil is needed, the fact that the new standard temperature ranges are the recommendations of the principal automobile scientific society, not of any individual oil company.

Standard Oil Co. of Ohio for several years has been selling motor oil on the basis of the anticipated driving temperatures, rather than on seasonal changes and its officials say that this has helped their sales of oil. The temperature ranges recommended by the SAE are the same Sohio has been using for some years. This company also recommends crankcase drains every 1000 miles, even though some of the motor car manufacturers' operating manuals say from 2000 to 3000 miles, except under unusual driving conditions.

In discussing the general adoption at present of the standard temperature ranges, the head of the sales engineering division of one oil company said:

"Prior to this, the various car manufacturers and oil companies defined summer and winter, severe winter, mild winter, et cetera, according to temperature ranges which, to them seemed to be the suitable temperature ranges for the various seasons.

"Naturally, there was considerable difference in these views, because some would consider that anything below 32 Fahr. was a winter temperature, whereas others would consider that real winter temperatures were not occurring until a temperature somewhat below freezing was obtained.

"When an oil company was making up its recommendation chart, it would encounter some difficulty in interpreting a difference between the various seasonal temperature ranges as viewed by them and the temperature ranges as published by the car builders."

Oil companies marketing their motor oils over a wide territory have also been aided by dropping the reference to temperature by the seasons. For example, there is a wide difference between temperatures in the winter months in the Dakotas and Montana and in Arizona and New Mexico. When motor oil recommendations were made on a seasonal basis, cars operating in

Now Control Motor Oil Change

the north would be using too heavy a lubricant, whereas those in the south might be using a too light lubricant. Adoption of a temperature range specification eliminates an undesirable compromise recommendation by the oil company.

The adoption of the standard temperature ranges also eliminates some overlapping in temperature ranges as formerly used, where more than one SAE number oil would apply at a given temperature range and in general brings the oil companies and car manufacturers into general agreement as to what constitutes winter and summer driving temperatures.

"Every automobile manufacturer has always recommended the use of lighter oils in cold weather and heavier oils in hot weather, but until lately they have each had their own ideas as to what was hot and what was cold," said the Society of Automotive Engineers in discussing standard temperature ranges. "This led to a great deal of confusion in recommendations by manufacturers and by oil companies as to when the type of oil should be changed.

"The Society of Automotive Engineers has spent several years studying this subject and has obtained practically unanimous agreement between all the principal car manufacturers and the major oil companies as to the temperature ranges which we vaguely describe as hot, cold or normal."

In discussing the temperature ranges as set forth above, the SAE went on to say:

"These ranges correspond to very cold winter weather, normal winter weather, normal summer weather, and very hot weather. It must not be supposed, it is stated, that standardizing these four temperature ranges in any way suggests that four different oil viscosities are necessary to take care of all conditions for all equipment. This depends upon the design and construction of the engines, and also to some extent upon the nature of the oils employed.

"The basis, according to the lubricants division, is the axiom that in relatively cold weather an oil characteristic of primary importance is its viscosity at starting temperatures, whereas in hot weather the viscosity of greatest importance is that at relatively high temperature, because it is this quality which influences oil consumption.

"Practically speaking it is obvious that, with this temperature set-up, two viscosities of oils will take care of most engines in any particular territory. In parts of the South the normal seasonal ranges would be for a minimum of 32°F and for a daytime maximum of over 90°F; whereas in territories where −10°F is a normal winter anticipation, temperatures over 90°F. are most uncommon; whereas the two middle ranges cover the larger part of this country, it is noted.

"Practically all automobile manufacturers are now using these ranges in their instruction books, and the same is true of majority of the oil companies. It is believed that this SAE action will be very helpful to the average driver who usually depends upon the recommendation of some oil company's service station as to what he should use at that particular time of the year."

★ ★ ★

Car Makers Tell When Frequent Oil Changes Should Be Made

While the auto manufacturers, in their current operating manuals for car owners, in general recommend the crankcase oil be changed at from 2000 to 3000 miles of driving, as they did a year ago, oil company engineers say that today they specify more exceptions, when the oil should be changed more frequently.

Knowledge at the oil company stations of what these exceptions are can be used in selling more oil drains, it is said. Particularly, the oil company engineers point out, the car manufacturers are more emphatic today in pointing out that the drain should be made when the engine is at normal operating temperature. They urge on station operators that they use this as a sales argument on the car owner to have the drain made when he comes into the station after driving for some time, rather than waiting, when perhaps this condition may not be so favorable. On this point the current Chevrolet manual states:

"It is always advisable to let the engine reach normal operating temperature before draining the crankcase. The benefit of draining is, to a large extent, lost if the crankcase is drained when the engine is cold, as some of the suspended foreign material will cling to the sides of the oil pan and will not drain out readily with the slow moving oil." Car manuals of other manufacturers carry the same advice.

Exceptions given in current car manuals of various manufacturers, when oil changes should be made more frequently than under "normal driving" include:

After driving over dusty roads or through dust storms—Then abrasive material is introduced into the engine, it is pointed out. While the carburetor air cleaner will decrease the amount of dust entering the crankcase, more frequent draining is recommended.

After a period of hard driving—This may thicken the crankcase oil and interfere with easy starting, particularly in cold weather.

When the oil filter is clogged—Then the oil is by-passing the filter and foreign material is not removed. Here is a chance for the station operator to sell a new filter as well as a crankcase drain.

When oil is deteriorated by crankcase dilution—This occurs through fuel vapors leaking by pistons and rings and mixing with the oil, particularly during the warming up period.

After short runs in cold weather—In city driving particularly, thorough warming up of the engine is not secured and water may accumulate in the crankcase from condensation of moisture produced by burning of the fuel. Under such driving this will not be removed by the crankcase ventilator and more frequent draining is needed.

The Accepted Standards of Pennsylvania Bright Stock Excellence Since 1900

•

ASTM POUR POINT
10 15 20 25

ASTM CONRADSON CARBON
.8 1.0 1.2 1.5

ASTM COLOR
3½ 4 5 6

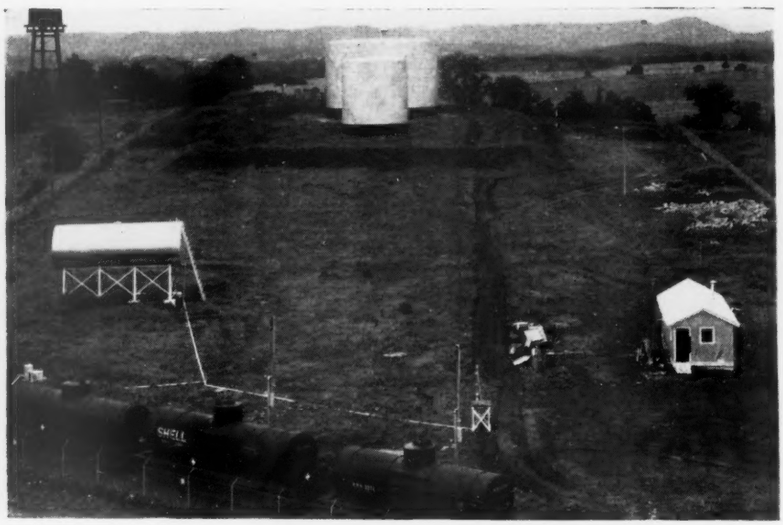
•

Manufactured Solely by

THE CONEWANGO REFINING CO.

Warren, Pennsylvania, U. S. A.

Pumping Is From Unloading Barge At River Terminal



New river terminal of Shell Oil Co. at Nashville, Tenn., on a bluff 125 feet above the river edge at normal stage. Additional tankage will be installed later as needed

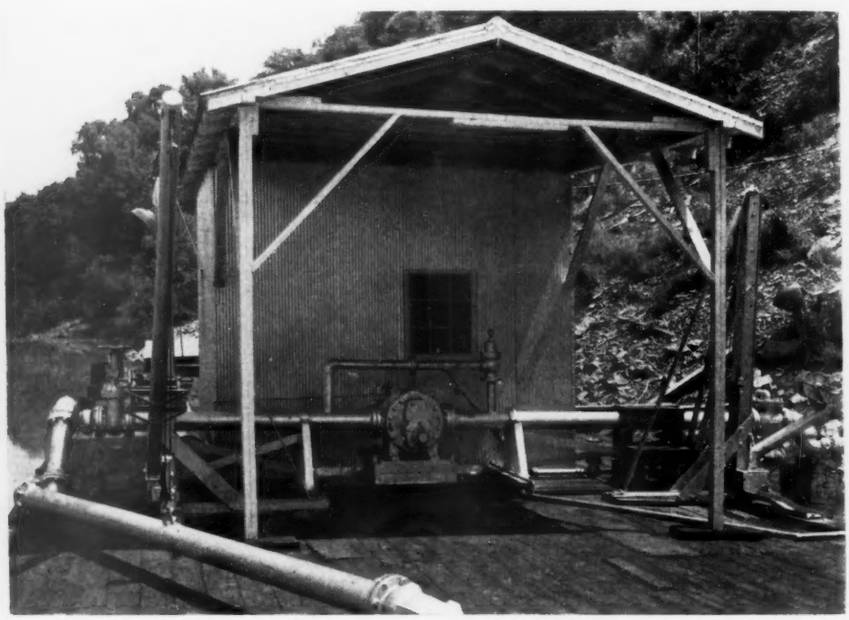
PUMPING of gasoline from river barges into storage tanks, at the river terminal of Shell Oil Co., Inc., on the Cumberland river at Nashville, Tenn., is done from a barge permanently moored at the water's edge.

Due to frequent rise and fall of the river and the rock strata at this location, driving of piles to build a dock was impractical. The storage tanks are located on a bluff 125 feet above the water at average river depth.

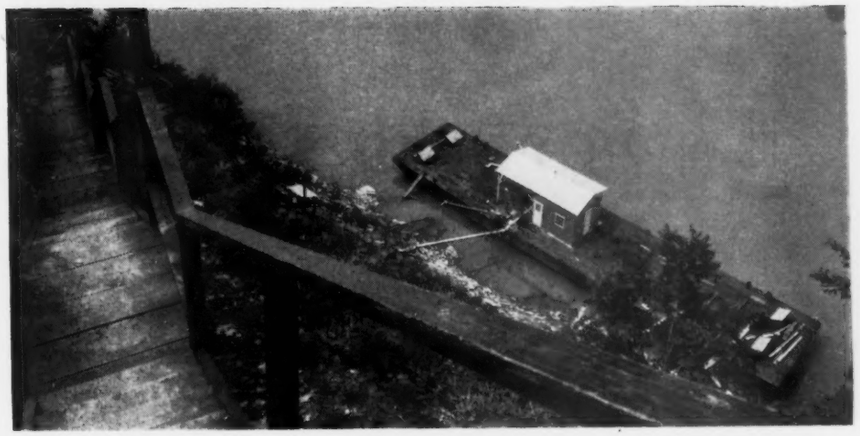
This arrangement for pumping has been worked out so that only one terminal operator is necessary to make piping connections to gasoline barges. Details, as described by G. C. Gabler of St. Louis, engineering manager of the oil company's operating department, are:

Barges are unloaded by a 500 gallons-per-minute rotary pump, driven by a 75 horsepower gasoline engine.

The gasoline barges are connected to the suction of the pump by means of a flexible arrangement made up of six-inch pipe, one two-way and two three-way ball bearing swing joints handled by means of a boom and hand



Rotary pump with capacity of 500 gallons a minute and flexible suction piping on the unloading barge of the Shell Oil Co. at its Nashville storage terminal. On each side of the barge are the boom and hand winch which makes it possible for one operator to make piping connection to gasoline barges. The gasoline engine which drives the pump is inside the housing



Unloading barge at the Shell's river terminal at Nashville. The stairway leads 125 feet from the bluff where the storage tanks stand to the river edge

winch. The same flexible arrangement is used to connect the discharge side of the pump with the shore pipe line to tankage.

The discharge line to tanks is provided with check valve, to prevent return of liquid to barge should the pump suddenly stop. A by-pass is provided around check valve, for priming of pump if necessary or draining the line back into the barge.

A small pump is maintained on the barge for pumping out seepage water from the barge bulkheads.

Gasoline barges are statically grounded before any pipe connections are made. The permanent hookup of discharge piping from the dock pumping barge makes possible unloading barges at any time. Sudden rises in the river of 15 feet overnight have been known.

Pump barge is anchored to dead-men in the rock strata and can be moved by means of hand winches.

Electricity is provided on the barge, connection to the shore being by means of a cord winder installed on the stairway. Lights enable unloading barges at night if occasion arises.

Use of the ball bearing swing joints in the flexible pipe arrangement, in connection with the boom and hand winch, makes it possible for one terminal operator to make connections to gasoline barges. This saves manpower normally required in handling heavy cargo-unloading hose.

A stairway up the bluff connects pumping equipment with the storage plant proper. Stairway is of treated wood, except lower sections subject to immersion, which are steel.

Tankage consists of one 850,000-gallon tank of all-welded construction, with breather-type roof; one 210,000-gallon, all-welded tank with cone roof; one 20,000-gallon tank for aviation gasoline, tank car and truck loading and unloading spots and a corrugated metal office building. Tanks are well above the maximum flood stage of the river of 55 feet at this point. Sufficient property has been acquired to allow for expansion in plant storage.

The large tanks were located as near the river's edge as possible, since ground elevation here is 30 feet above the spur track. Tank cars are loaded by gravity, at average rate of 600 gallons a minute, through six-inch, underground pipe lines from tanks to four-inch car loaders.

Car loaders are heavy, black steel stand pipes, with ball bearing, steel, counter-balanced, double swing joints, with an aluminum cross-arm and loading stub, with loading valve at end of cross-arm connected with a single swing joint.

Aviation gasoline is received in tank cars and unloaded into the horizontal tank by a 50 gallons-per-minute rotary pump. Trucks are filled by gravity from the loading stand, from this tank.

THIS *Coupon* IS AN OPEN DOOR TO A

50% to 75% Saving

IN EVAPORATION AND STORAGE LOSS

MAIL TODAY

When we say that ECONO-VENT will effect a definite saving of from 50% to 75% in your evaporation and storage losses, we expect you to demand proof—and welcome the chance of furnishing it.

That is why we ask you to fill in the coupon, study the facts and let your own good judgment convince you that ECONO-VENT means safety and savings that no other vent valve can provide.

What Is Econo-Vent?

ECONO-VENT is the revolutionary new type tank vent with the unfailing LIQUID SEAL. Without the use of a single mechanical part (or the need for mechanical attention) it offers positive protection under all conditions plus a reduction in losses that pays back its cost every few months.

The coupon will bring full details.

LION MFG. CORPORATION
2703 Belmont Ave., Chicago
Please send us full information on ECONO-VENT with the results of metered tests conducted by bulk plant operators under actual service conditions.

COMPANY NAME

ADDRESS

CITY AND STATE

INDIVIDUAL

ECONO-VENT's relief action is positive, unfailing because independent of any mechanical parts . . . in addition, ECONO-VENT confines within its own chambers, the "breathing" process caused by temperature changes. Result: 50% to 75% saving in evaporation and storage loss.

SAVE WITH Econo-vent LIQUID SEAL TANK VENT

The New Type Tank Vent with the Revolutionary LIQUID SEAL

SUMMER PROFITS... FOR

Independent oil marketers are "stepping up" their selling this summer, in conjunction with their busiest gasoline season, they tell NATIONAL PETROLEUM NEWS, by:—

SELLING OIL—By putting their own brand in cans—By using paper napkins to demonstrate condition of the oil in the crankcase—By pushing sales in larger cans and drums—By talking up their quality brands.

SALES PROMOTION PROGRAMS—Systematic phone calls to residences—Local advertising—Personal touch to form sales letters—Bonuses to station salesmen—Giving away novelties to customers—By handling dealers personally—Using direct mail.

IMPROVING PROPERTIES—Providing parking space and sleeping quarters for truckers—Putting in asphalt or chat drives—Installing lubritoriums in stations—Using larger loading lines at bulk plants.

Paper Napkin Tells If Oil Is "Safe"

Demonstrations concern for the condition of the motorist's oil is the means used by Wolverine Service Stations, South Haven, Mich. to sell more motor oil, or, at least, to avoid any resentment on the part of motorists who might object to having the hood lifted and their oil checked.

Attendants use a clean, white paper napkin to wipe off the oil gauger. The napkin, being highly absorbent, shows up dirty, or "unsafe" oil, says A. D. Dubuisson, head of this company.

On it is printed this crisp warning in large bright blue letters where it can be readily seen when held in the hand:

"CARBON causes:

"Burned Valves.

"High Oil Consumption.

. . . . Oil Resists Carbon."

"There sems to be a great horror", Mr. Dubuisson says, "or some mysterious feeling on the part of the average service station operator about raising the hood to check the motorist's oil. Even in spite of the fact that the automotive engineers have figured out a way to help them by placing the radiator cap under the same hood so it really is not as hard to get the hood up as it was heretofore.

"They also seem to feel there will be some resentment on the part of the operator of the motor vehicle."

Mr. Dubuisson says the paper napkin has proven a great help to the service station men in convincing the customer that they have a real interest in the condition of the oil in their automobile.

★ ★ ★

Has Own Brand Drive

A special drive on its own brand motor oils is being made by Associated Service Co., Indianapolis, Ind., according to W. C. Holmes, owner.

"We are putting all our own brands in cans and making a special drive . . . at higher prices," he says.

★ ★ ★

Talks "Good Oil"

The importance of using "good oil" is talked up by Paul Peterson, Blackwell Hill Service Station, Central Point, Ore. to his customers, to boost motor oil sales.

He features oil in two-gallon sealed cans, will put in a line of tires and inner tubes and is modernizing his tourist cabins.

★ ★ ★

Pushes Bulk Oil Sales

Fair Price Stations, Inc., Wooster, O., boosts motor oil business by pushing bulk oil sales—in 10-quart and 5-gallon cans and drums.

Builds Stations, Modernizes Plants

Modernizing, cleaning up, painting . . . . that's what Rowell & Watson, Dover, N. H., are doing to help attract summer business.

This company is modernizing its buildings and equipment, adding new lighting and rebuilding its driveways, according to B. R. Rowell.

Besides, it is building two service stations with lubritoriums and has purchased a new 2100-gallon truck.

One of its stations is handling fishing tackle as a trial, but Mr. Rowell says: "Short season—too much carryover."

The company has four bulk plants. It has adopted larger lines for quicker loading of trucks. Larger capacity trucks are being used.

Advertising is done by direct mail and personal calls by station operators.

The company is buying its tires and batteries on a group plan, resulting in lower costs, Mr. Rowell says.

★ ★ ★

Builds to Serve Truckers

Providing parking space for 60 trucks and sleeping quarters for truck drivers, including showers and lounging room, are a part of the station modernization program of the Williams Oil Co., National Highway No. 31, Whiteland, Ind., says M. H. Williams, owner.

★ ★ ★

Improves Driveways

Dust, dirt and grease on their shoes is an annoying experience to many motorists, especially women, who step out of their cars at service stations.

Home Oil & Supply Co., Grant City, Mo., has been improving its driveways with asphalt and chat "which makes a wonderful drive, and keeps us'out of the mud,' " says H. B. Wolff, owner.

★ ★ ★

Buys Truck, to Build Station

One two-ton truck has been purchased by E. M. Pickens, distributor for Gulf oil products at Crescent City, Fla. He also plans to build a one-stop service station in 1940, he says.

THE OIL MARKETER —

Phone Calls Bring Business to Station

An "excellent profit-maker," according to Jerry Tyler, Red Eagle Oil Co., Macon, Mo., is personal solicitation, either at the business address or residence for gasoline and oil sales, or telephone calls. The company had each of its service station men make five phone calls daily for business.

Checking and testing batteries and tires on cars on the drive, on the lubrication racks and in storage, is also used by this company to increase its sales of these items.

The company is remodeling two old service stations and has bought a new 500-gallon truck, says Mr. Taylor.

★ ★ ★

Advertises Locally

"Being a local concern, we do a lot of local advertising," says E. R. McCoy, McCoy's Service Stations, Charlotte, N. C.

"We are giving away some (motor oil) in order to get the public started using it," he adds.

Service stations are being built.

★ ★ ★

Show Purchase Is By Oil Payroll Dollar

The 75 salaried employes of the Red Ace Petroleum Co., Inc., Nashville, Tenn., whenever they make a purchase, hand out a card which reads:

> "Just a Thought! This purchase has been made possible with a RED-ACE PAYROLL DOLLAR. When your Gas and Oil runs low, please drop by to see me."

Space is given for name and address of a Red-Ace station. "Not original, but effective," says James W. Perkins, president, of the card.

★ ★ ★

Increases Advertising

Holmquist Grease & Lubricating Co., Oakland, Neb., has increased its advertising of all kinds to boost gasoline and motor oil sales this summer. It also does personal selling and gives complete and thorough service at pump islands, says M. G. Holmquist.

The company pushes tire sales by offering two for one—a free tube with each tire, and used tires at 50 per cent off, meeting chain store competition, he adds.

A new 1½-ton truck has been purchased.

★ ★ ★

Uses Direct Mail

Direct mail advertising is used by Peoples Oil Co., Rocky Mount, N. C., to bring in gasoline and oil business. It is also attempting more contacts on tire and battery sales.

★ ★ ★

Tire Sales Letter With Personal P.S.

A postscript in ink, seemingly written by hand, personalized a mimeographed direct mail letter the Porter Oil Co., Spooner, Wis., sent out in June. It was aimed to bring in tire and battery prospects.

Prospects were urged to come and see a demonstration of the tire. Then they were offered a special saving on their own purchasing if they would tell their friends about the demonstration. Safety of the tires were stressed.

The highspot in the letter was the hand-written postscript which called attention to the written service contract each tire buyer gets, according to W. A. Porter, Jr.

★ ★ ★

Advertises, Pushes Personal Selling

For more gasoline business, Brown Garage & Oil Co., Sioux Falls, S. D., is concentrating on a "definite program of personal solicitation". It gives novelty advertising when these personal calls are made. It also is doing radio and newspaper advertising, according to H. L. Aden, a member of the company.

The company is trying to sell more motor oil by conducting a farm selling campaign and by intensifying its efforts at the pump, he said.

It is also opening a trailer camp, installing new meters at its bulk plant, buying a 1½-ton truck, and will build a $10,000 complete service station with "emphasis on more room on the platform, more parking space, and lighting equipment", Mr. Aden says.

In Minnesota's fishing and summer camping and cottage spots, insecticides, fishing licenses and minnows are much in demand. All three have been added as summer items by Service Oil Co., Hibbing.

The insecticide, says G. V. Dahlner, manager, "keeps insects away for hours. We have a nice trade around the summer cottages and with fishermen."

★ ★ ★

Checks Sales of Every Outlet with Year Before

"One simple idea" that has helped increase business but has not increased costs, is described for NPN's Summer Profits department by G. A. Ingrum, consignee at San Angelo, Texas.

"At the end of each month's business, I list every resale outlet I have, together with the sales for the month, compared with sales for the same month the previous year. Thus, one can readily see just where his increase or decrease is.

"Then, with this data in front of me, I can help those dealers who need help, and praise those who are doing a fine job.

"The dealer is willing to buy, but he wants and needs help to move the goods he has already purchased. I find that the dealers appreciate interest shown by myself, not only about the products I sell, but other merchandise as well.

"My idea is, help the dealer make more money and he will make more money for you by buying in larger quantities, and reinvesting in his business which, in turn, will lead to increased sales. As the dealer's business increases, then is the time to talk to him about buying in larger quantities, which means fewer stops for the tank wagon and less labor overhead."

★ ★ ★

Constant Effort Wins

Persistence wins in oil marketing, many marketers feel.

Home Oil & Supply Co., Grant City, Mo., expects to increase its summer motor oil business by "consistently" using its mailing list, according to H. B. Wolff, owner.

Milder Oil Co., Omaha, Neb., expects increased sales by "religiously" checking customer's cars and "consistently" educating its dealers on oil selling, A. H. Anderson says.

★ ★ ★

Pays Bonus To Salesmen

Harry D. Zang, Western Springs, Ill., tells NPN he is trying to boost his summer sales "by paying my help a good salary plus a commission on all sales of motor oil, lubrication and accessories." He is also making a more accurate check of tires and battery hydrometer readings.

What Compressor Makes "Free Air" Cost You Less?

THE ANSWER IS

KELLOGG

Cushioned Air Compressors

● **Just why your air costs less** with a Kellogg Compressor is the sum total of the many exclusive features built into these compressors. Anyone who knows air, knows that whenever air gets the slightest chance to escape, either during or after compression, it's going to take it.

That's the reason, for instance, that Kellogg fits pistons individually to cylinders, and runs them in before final assembly. That's the reason Kellogg has a highly effective check-valve at the tank inlet to keep air from seeping back past the piston and into the crankcase. That's the reason Kellogg uses multiple head valves, less subject to distortion than large single valves.

Fundamentally sound engineering and precision manufacture combine to make Kellogg exceptionally efficient—exceptionally economical. And it's "cushioned" for quiet. A complete range of sizes, types and horsepowers for every service requirement. *Buy no compressor*—until you've learned *all* about Kellogg.

KELLOGG DIVISION OF THE AMERICAN BRAKE SHOE AND FOUNDRY COMPANY, ROCHESTER, NEW YORK

Manufacturers also of the Kellogg Auto-Lift, which operates on air alone

ARE YOU ONE?

National Petroleum News
1213 W. 3rd St., Cleveland, Ohio

Yes. . . I'm one of those fellows who is always promising himself a personal subscription to NPN. So here goes—

Enter my subscription for the next 52 weeks. Enclosed is $3. (Canada $4, Foreign $4.50).

NAME .....

St.-Box .....

City-State .....

Celebrates Fifty Years Of Building With Steel

In Oronoco, Minn., in 1866, 23-year-old Horace E. Horton set himself up as an engineer capable of building bridges wherever needed, and pointed the way to the founding of the Chicago Bridge & Iron Co. three years later.

Celebrating its 50th birthday Aug. 8, 1939, this pioneer company which is today closely affiliated with the oil industry, has added to its activities until it manufactures everything from barges to atom busters and its field of endeavor extend from Fort Peck to Iraq.

The history of the growth of this company has been written for the Fiftieth Anniversary Issue of the company's publication The Water Tower, by Florence Heath Horton, granddaughter of the founder and daughter of George T. Horton, now president of Chicago Bridge & Iron Co.

A feature of this issue is a section devoted to "Famous Firsts", new developments pioneered by the company. For the oil industry these firsts include spherical tanks for gases and liquefied gases, Horton-spheroids for pressure storage of crude and gasoline, Wiggins floating roofs, balloon and breather roofs.

Market Research Data Published

WASHINGTON — The U. S. Department of Commerce has issued an "Industrial Market Data Handbook", the first of its kind ever published, containing complete figures on industrial production, employment, value of products, cost of material, fuel and power and output per wage earner for each of the 3070 counties in the U. S. The figures in the handbook pertain to 1935.

Its data is said to be useful for establishing new sales territories or reappraising old ones, setting up sales and production quotas, planning sales and advertising campaigns and determining upon channels of distribution.

The handbook may be ordered through the Superintendent of Documents, Washington, or with any district office of the Bureau of Foreign and Domestic Commerce. Its price is $2.50 per copy.

Safe Driving Puppet Show

In connection with its national "Share-the-Road" campaign, Shell Oil Co. is using along the Atlantic seaboard a marionette theatre on a truck chassis and a "Crusader" car.

The two units visit a city after advance announcement. The marionette theatre parks at a central location and gives performances showing traffic "boners". The Crusader car, equipped with sound amplifier, is used in co-operation with local police. An officer usually rides in the car pointing out violations of traffic rules by inconsiderate motorists.

NEW EQUIPMENT
And the Manufacturer

NEW BRANCH OFFICE—Opening of a new branch office at Houston, Texas has just been announced by the Quaker City Rubber Co., Philadelphia, Pa. It will be in charge of H. M. Sossaman and will serve the states of Arkansas, Louisiana, Mississippi, New Mexico, Oklahoma and Texas, the company announces.

* * *

NEW LOCATION—The Gasoline Equipment Co., Indianapolis, Ind. announces it will move into its new building about August 1. The new building will provide enlarged warehouse space and additional room for service and manufacturing facilities, the company states.

* * *

NEW PRESIDENT—J. S. Warren has been elected president of the Maloney Tank Mfg. Co., Tulsa, Okla., succeeding the late Harry Ross. Mr. Warren has been connected with the company since 1914, serving as vice-president and treasurer at the time of his promotion.

Other officers elected were George J. Maloney, Long Beach, Calif., vice-president and J. C. Highfill, Tulsa, secretary.

* * *

John Edward Jackson has been elected president of the Pittsburgh-Des Moines Co., Pittsburgh, Pa. succeeding his father, who died recently.

Mr. Jackson was graduated in civil engineering from Iowa State College, Ames, Ia., in 1924 and since his graduation has been actively connected with various departments of the Pittsburgh-Des Moines Co.

* * *

PERSONNEL CHANGE—C. A. Fine will be in charge of the Alemite Co. of Southern California, with headquarters at Los Angeles, according to a recent announcement.

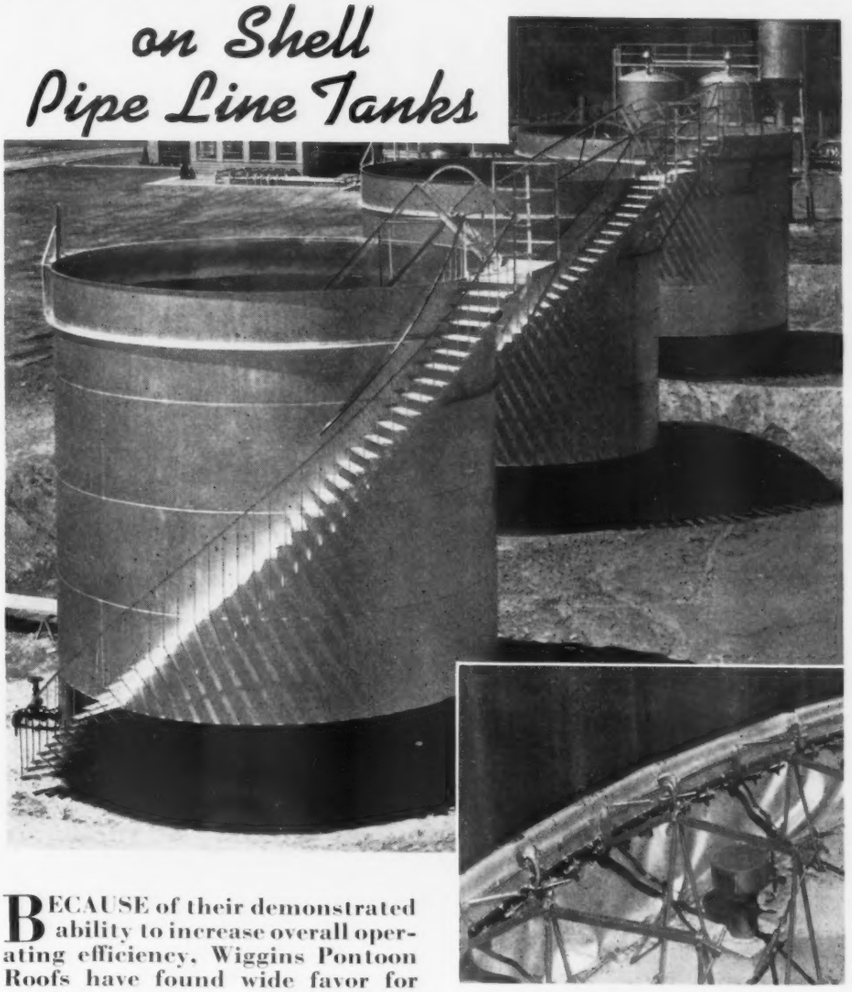
Mr. Fine has been sales manager of the Alemite retail sales division for the past three years. Previously he was in charge of equipment sales in the East. He has been with Alemite almost 17 years, starting as a salesman at Los Angeles.

* * *

ADD NEW ITEMS—Two new hose reels, one for air and one for water, have been added to the Bennett-Eco line manufactured by the Service Station Equipment Co. of Muskegon, Mich.

Designed for installation on floor, ceiling or wall, the reels have seven mounting positions. A ratchet-stop automatically maintains a 25-foot hose at predetermined lengths. Rewind speed is controlled by a governor type friction brake.

WIGGINS PONTOON ROOFS
on Shell Pipe Line Tanks



BECAUSE of their demonstrated ability to increase overall operating efficiency, Wiggins Pontoon Roofs have found wide favor for working tanks on crude oil and gasoline pipe lines. The above picture shows pontoon roofs on one 5,000-bbl. and two 3,000-bbl. tanks at the Lima, Ohio station on the 450-mile Shell gasoline pipe line, extending from their Wood River, Ill. refinery to Toledo, Ohio.

Wiggins Pontoon Roofs may be installed on new tanks or existing tanks that are in good condition. In either case, users get the advantages of evaporation savings and at the same time fire hazard can be reduced. For complete information, please address our nearest office.

THE SECONDARY SEAL

Recent improvements in Wiggins Pontoon Roof design include the use of secondary seals on pontoon roofs for lap welded or riveted tanks. Secondary seals consist of a closed loop of tough resilient material, mounted on an extension plate at the top of the shoe. This loop contacts the tank shell and seals the space between it and the shoe, thus helping to prevent evaporation losses due to wind action at times when the shoe is passing over seams. Shown directly above is a close-up of the secondary seal used on one of the pontoon roof tanks at Lima, Ohio.

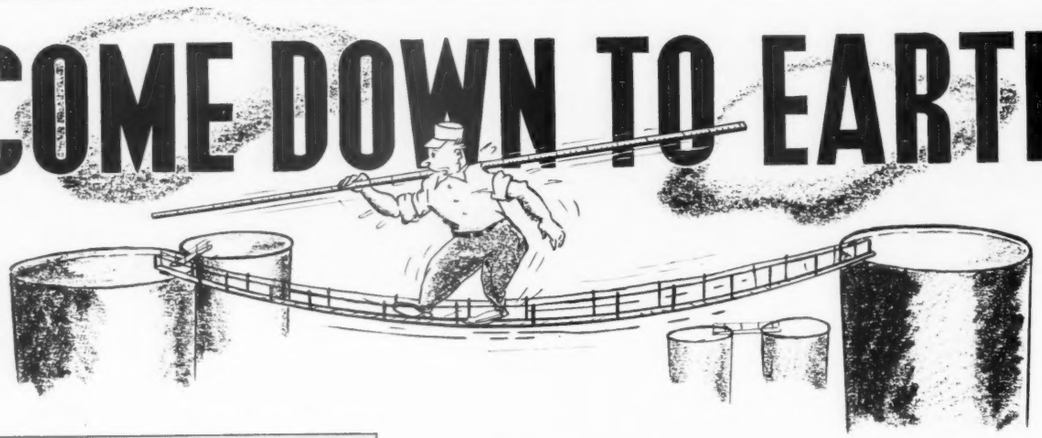
Chicago Bridge & Iron Company

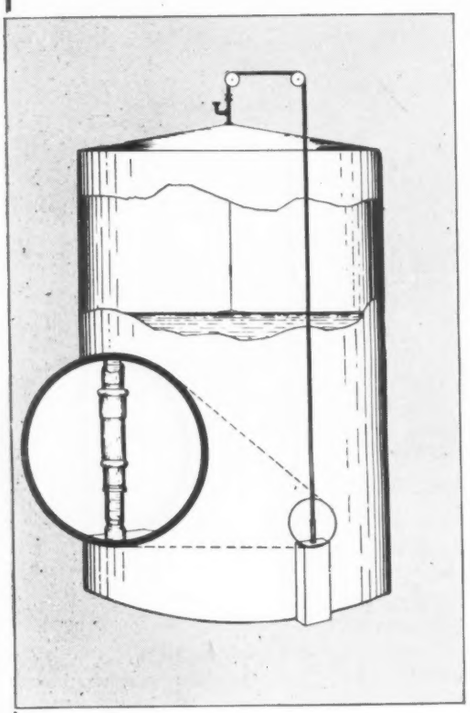
Cleveland	2206 Rockefeller Bldg.	Dallas	1439 Liberty Bank Bldg.
Chicago	2125 Old Colony Bldg.	Birmingham	1534 N. Fiftieth Street
New York	3345—165 Broadway Bldg.	Houston	2919 Main Street
Philadelphia	1614—1700 Walnut Street Bldg.	Tulsa	1607 Hunt Bldg.
Boston	1516 Consolidated Gas Bldg.	San Francisco	1060 Rialto Bldg.
Detroit	1513 Lafayette Bldg.	Los Angeles	1422 Wm. Fox Bldg.

FABRICATING PLANTS in Birmingham, Chicago and Greenville, Pa.

LICENSEES: Horton Steel Works, Limited, Ft. Erie, Ont., Canada; The Mortherwell Bridge & Engineering Co., Ltd., Motherwell, Scotland; The Whessoe Foundry & Engineering Co. Ltd., London, England; Worms & Cie., Paris, France; Compagnia Tecnica Industrie Petroli S. A. I., Rome, Italy.

COME DOWN TO EARTH



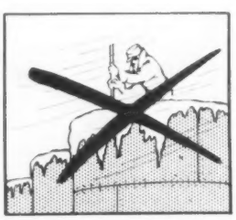


WITH THE SIMPLEX TANK GAUGE

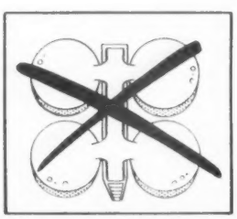
Do you put on a trapeze performance at your plant every time the tanks need checking? Climbing around on shaky runways is pretty risky business personally . . . to say nothing of the increased loss from evaporation, when you open a tank.

You can eliminate all this with the installation of SIMPLEX TANK GAUGES. You make the readings without climbing a step . . . the tape box is conveniently located at the base of the tank . . . readings are accurate and instant . . . losses from any source are detected immediately. You SAVE any way you look at it.

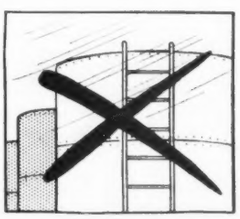
THE SIMPLEX TANK GAUGE fits both horizontal and vertical tanks, old or new. It's easily and quickly installed. Bulletin 601-34 gives complete specifications.



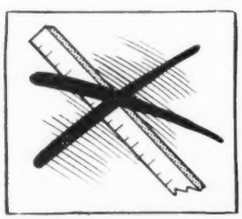
No more crawling atop your tanks when it is zero weather.



No more expensive catwalks. You gauge right from the ground.



No more ladders to climb with danger of falls and injury.



No more gauge sticks to wave around in mid air.

VIKING PUMP COMPANY
CEDAR FALLS, IOWA

Markets

Mid-Continent

TULSA, Aug. 7. — A total of 23 cars of gasoline were reported sold in the open market last week by Oklahoma suppliers. A two-car sale of Oklahoma 62 octane and below was reported at 4.125 cents, 0.125 cent below quotations reported the previous week. Prices for other grades of gasoline were unchanged throughout the Mid-Continent and shipments against contracts were heavy, reports indicated.

Sales of Grade 26-70 natural gasoline f.o.b. Breckenridge were reported at 3 cents last week, 0.25 cent above the previous week's low quotations. Quotations on a Group 3 basis also were reported at 3 cents. A manufacturer reported selling 40,000 barrels of 18 and 20 pound vapor pressure natural for parcel liftings during August and the first half of September. Price, he said, was slightly above today's quotation.

Pennsylvania

CLEVELAND, Aug. 7.—Export bulk sales of large quantities of lubricating oils boosted prices for bright stock in western Pennsylvania the past week. Inquiries, especially for export, were reported as "surprisingly heavy". Quotations for "Q" gasoline in the lower field were down 0.25 cent and 122-124 white crude scale wax dropped 0.05 cent to 2.85 to 2.95 cents, New York.

Advanced quotations for bright stock were reported by four refiners which brought the range of prices to 19-20 cents for 10 pour test, 18-19 cents for 15 pour, and 16-17 cents for 25 pour.

Two lower field refiners reported 0.25-cent reductions to 6 cents in their quotations for "Q" gasoline. Other quotations reported for this product were at 6.25 cents.

With the exception of kerosine, movement of refined products against contracts was heavy, refiners said.

Gulf

NEW YORK, Aug. 7. — Five cargo transactions, three gasoline and two kerosine, were reported in the Gulf market the past week and a number of inquiries were still in the market as the week ended. It was the most active period of trading at the Gulf in many weeks, according to reports here.

One cargo of gasoline for export shipment calls for 65,000 barrels of 68 octane at 5 cents and 72 octane at 5.25 cents for late August or early September lifting. The other two gasoline cargoes were 75,000 barrels each of 72-74 octane leaded at 5.25c, first half of August loading, for domestic shipment.

Two cargoes of 41-43 w.w. kerosine were closed for domestic shipment, August-September lifting. One cargo of 50,000 barrels brought 3.50 cents a gallon and the second cargo of 75,000 barrels brought 3.625 cents. Indications in some quarters were that kerosine was unobtainable under 3.625 cents for lifting after Sept. 1.

Sixty-seven octane gasoline was offered 0.125 cent lower at 4.875 cents a gallon, while No. 2 fuel oil was quoted 0.125 cent higher at 3.25 cents, according to reports. Prices of other products were reported unchanged.

Mid-Western

CHICAGO, Aug. 7. — Refiners at Chicago reported sales of 28 cars, and tank car marketers 45 cars, on the open spot market last week.

Sales of 15 cars of leaded 72 octane gasoline at 5.125 cents were reported by refiners. Tank car marketers reported 20 cars sold at 4.50 cents, nine at 4.625 cents, and two at 4.75 cents. Three cars of Ethyl gasoline were reported sold by marketers, two at 5 cents and one at 5.50 cents.

Tank car marketers reported sales of 62 octane and below ranged from 3.875 to 4.125 cents, and refiners' sales were at 4.125 to 4.375 cents.

Buying of tractor fuel by jobbers for storage against the fall farm season, has begun in the northwest, one refiner reported.

Changes in quotations during the week were within the price ranges, leaving the highs and lows unchanged. One refiner reduced his price on 62 octane and below gasoline 0.125 cent to 4.125 cents. A tank car marketer advanced his quotation on 70-72 octane gasoline 0.125 cent to 4.625 cents.

Eastern

NEW YORK, Aug. 7. — With seasonally heavy consumer demand in full-swing, gasoline prices generally were unchanged last week in eastern seaboard markets, according to reports of suppliers.

Although movement was heavy, it was mostly against contracts, suppliers said, and little open spot business was reported.

Wax

NEW YORK, Aug. 7. — Suppliers' quotations for yellow crude scale wax generally were reported last week at 2.80 cents a pound, white scale at 2.85 cents, at New York and New Orleans. At least two suppliers who had been asking 3 cents said they had reduced their quotations to meet competition. No changes were indicated in quotations for fully refined grades. Domestic movement was fairly steady while export shipments were said to have fallen off considerably.

N. P. N. Refinery Index

The Refinery Index shown below represents the return in cents per barrel (42 gallons) from refining a barrel of 36 gravity Mid-Continent crude into its various principal products. The index is calculated by subtracting the current price of crude at the well from the average price of refined products sold at current quoted Oklahoma refinery market prices.

Date	Margin
Aug. 1	51.7
Month ago	52.2
Year ago	45.7

N. P. N. Gasoline Index

	Dealer T.w. Cents	Tank Car per Gal.
Aug. 7	9.70	5.67
Month ago	9.70	5.69
Year ago	10.24	6.14

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of 12 wholesale markets for regular-grade gasoline.

Fuel Oil

NEW YORK, Aug. 7. — Prices for various grades of fuel oil along the eastern seaboard were generally unchanged last week, according to reports of suppliers. Stocks were said to be moving in a routine way, chiefly against contracts. Some traders said there was increasing interest in lighter grades of fuel oils in anticipation of the coming heating oil season.

* * *

CHICAGO, Aug. 7. — The trend in demand last week for domestic oils was mixed, sellers reported, as the industry entered the stretch before the winter's heating oil season begins.

Some shopping around on the part of jobbers on oil for storage was reported. One seller reported refiners were more willing now to move these grades, while another seller reported refiners were not anxious to make sales. Several sellers reported jobbers last week were not buying any large amounts for storage.

Industrial companies were in the

(*Continued on page* 55)

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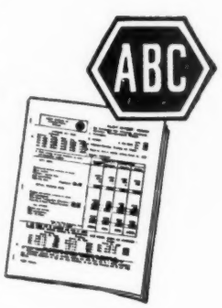

National Petroleum News *An A. B. C. Publication*

A.B.C. = Audit Bureau of Circulations = FACTS as a yardstick of advertising value

REFINERY TANK CAR MARKETS

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days) unless otherwise stated. Prices in cents per gallon, except heavy fuel oils in dollars per barrel of 42 gallons, wax and petrolatums in cents per pound in barrels, tank car lots, FOB refineries in districts designated, except where otherwise noted. Inter-refinery and export prices not included unless so stated in the respective markets. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Gasoline

Prices Effective	Aug. 7	July 31
OKLAHOMA		
U. S. Motor: (Octane L-3)		
62 oct. & below	4.125– 4.625	4.25 – 4.625
63-66 oct.	4.50 – 4.875	4.50 – 4.875
67-69 oct.	4.625– 5.125	4.75 – 5.125
70-72 oct.	5.00 – 5.375	5.00 – 5.375
60-62, 400 e.p.	(h) 4.25 –4.375	(h) 4.25 –4.375
WESTERN PENNA. REFINERY QUOTATIONS		
Bradford-Warren:		
Motor gasoline:		
U.S Motor (58-62°)	(h)4.625	(h)4.625
Min. 65 oct.	(h) 6.25 –6.50	(h) 6.25 –6.50
"Q" gasoline	(h) 6.25 –6.50	(h) 6.25 –6.50
Other districts:		
Motor gasoline:		
U. S. Motor (58-62° gravity):	4.50 – 5.00	4.50 – 5.00
"Q" gasoline	6.00 – 6.25	6.25 – 6.50
CENTRAL MICHIGAN (a)		
Str.-Run Gasoline	4.25 – 4.50	4.25 – 4.50
U.S. Motor: (Octane L-3)		
67-69 octane	(e)6.25	(e)6.25
70-72 octane	7.00 – 7.25	7.00 – 7.25

Prices Effective	Aug. 7	July 31
CALIFORNIA (3c tax to be added if used in state)		
U. S. Motor:		
54-58 gravity, for in-state shipment	6.50 – 9.25	6.50 – 9.25
54-58 gravity, for out-side state shipment	6.50 – 9.00	6.50 – 9.00
58-61 gravity, 375-400 e.p., 65 oct. & above	7.50 – 9.75	7.50 – 9.75
N. TEX. (b)		
U. S. Motor: (Octane L-3)		
62 oct. & below	4.25 – 4.50	4.25 – 4.50
63-66 oct.	4.625– 5.00	4.625– 5.00
67-69 oct.	4.75 – 5.00	4.75 – 5.00
70-72 oct.	5.00 – 5.50	5.00 – 5.50
60-62, 400 e.p.	(h)4.25	(h)4.25
KANSAS For Kansas destinations only)		
U. S. Motor: (Octane L-3)		
62 oct. & below	4.50 – 5.00	4.50 – 5.00
67-69 octane	4.875– 5.50	4.875– 5.50
70-72 octane	5.25 – 5.875	5.25 – 5.875
W. TEX. (b)		
U. S. Motor: (Octane L-3)		
62 oct. & below	(h) 4.25 –4.50	(h) 4.25 –4.50
63-66 oct.	(e)4.75	(e)4.75
67-69 oct.	(h)5.00	(h)5.00
70-72 oct.	(e)5.25	(e)5.25

Prices Effective	Aug. 7	July 31
CENTRAL WEST TEXAS (Prices to truck transports)		
U. S. Motor Gasoline: (Octane L-3)		
62 oct. & below	(e)4.25	(e)4.25
63-66 octane	(e)5.00	(e)5.00
66-70 octane	(i)	(i)
E. TEX.		
U. S. Motor Gasoline, (Octane L-3)		
70-72 oct.	(h) 4.625–4.75	(h) 4.625–4.75
60-62, 400 e.p.	(h)4.25	(h)4.25
N. LA. (For shipment to La. & Ark.)		
U. S. Motor: (Octane L-3)		
62 oct. & below	(h) 4.25 –4.375	(h) 4.25 –4.375
63-66 oct.	(e) 4.50 –4.625	(e) 4.50 –4.625
67-69 oct.	(e) 4.75 –4.875	(e) 4.75 –4.875
70-72 oct.	(e) 5.125–5.375	(e) 5.125–5.375
ARKANSAS (F.o.b. Ark. plant of one refiner, for shipment to Ark. & La.)		
U. S. Motor: (Octane L-3)		
62 octane & below	4.625	4.625
67-69 oct.	5.00	5.00
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
70-72 octane	7.375	7.375

(Continued on next page)

(a) Prices FOB. Central Michigan refinery group basis, for shipment within Mich. Shipments may originate at plants outside Central group. (b) For shipment to Texas and New Mexico destinations: Group 3 prices quoted for northern shipment. (c) Excluding Detroit shipment. (e) One refiner quoting. (f) Two suppliers quoting. (g) To re-sellers holding licenses. (h) Two refiners quoting. (i) No quotations reported. (j) Prices discontinued.

MID-WESTERN TANK CAR MARKET

Prices in this Midwestern Tank Car Market table are gathered from refiners and tank car marketers or brokers from their offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight rate basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Generally when prices are quoted in this Chicago market, the origin of the material is not known at the time the quotation is given, oftentimes even with the quoting refiners who have refineries in more than one refining district. All other gasoline prices are given by and for the particular refining district where the material is made and from which it is shipped.

Gasoline

Prices Effective	Aug. 7	July 31
U. S. Motor: (Octane L-3)		
62 oct. and below	3.75 – 4.50	3.75 – 4.50
63-66 oct.	3.875– 4.50	3.875– 4.50
67-69 oct.	4.125– 4.875	4.125– 4.875
70-72 oct.	4.50 – 5.25	4.50 – 5.25

Kerosine

41-43 gravity, w.w.	3.00 – 4.00	3.00 –4.00
42-44 gravity, w.w.	3.25 – 4.25	(a) 3.25 –4.25

Fuel and Gas Oils

Prices Effective	Aug. 7	July 31
No. 1 p.w.	3.00 – 3.75	(a) 3.00 –3.75
No. 1 straw	2.75 – 3.375	2.75 – 3.375
No. 2 straw	2.75 – 3.50	2.75 – 3.50
No. 3	2.625– 3.125	(a) 2.625–3.125
No. 5	$0.65	$0.65
No. 6	$0.35 –$0.45	$0.35 –$0.45
U. G. I. gas oil	(i)	(i)
Range oil	3.00 – 3.875	3.00 – 3.875

Chicago Naphtha and Solvent

Prices Effective	Aug. 7	July 31
(FOB Group 3 as quoted by two Chicago sellers)		
Stoddard solvent	5.875	5.875
Cleaners' naphtha	6.375	6.375
V. M. & P. naphtha	6.375	6.375
Mineral spirits	5.375	5.375
Rubber solvent	6.375	6.375
Lacquer diluent	7.375	7.375

(a) These are correct prices for July 31 instead of those published in Aug. 2 Issue, page 39.

Daily range of gasoline prices as reported in PLATT'S OILGRAM (Week Ended Aug. 4, 1939)

	July 31	Aug. 1	Aug. 2	Aug. 3	Aug. 4
U. S. Motor, (Octane Number determined according to L-3 Method in Okla., Texas and Mid-Western Districts):					
62 octane and below:					
Oklahoma	4.25 – 4.625	4.25 – 4.625	4.25 – 4.625	4.25 – 4.625	4.125– 4.625
(a) North Texas	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
West Texas	(c) 4.25 –4.50	(c) 4.25 –4.50	(c) 4.25 –4.50	(c) 4.25 –4.50	(c) 4.25 –4.50
Mid-Western (Group 3 basis)	3.75 – 4.50	3.75 – 4.50	3.75 – 4.50	3.75 – 4.50	3.75 – 4.50
63-66 octane:					
Oklahoma	4.50 – 4.875	4.50 – 4.875	4.50 – 4.875	4.50 – 4.875	4.50 – 4.875
(a) North Texas	4.625– 5.00	4.625– 5.00	4.625– 5.00	4.625– 5.00	4.625– 5.00
West Texas	(b)4.75	(b)4.75	(b)4.75	(b)4.75	(b)4.75
Mid-Western (Group 3 basis)	3.875– 4.50	3.875– 4.50	3.875– 4.50	3.875– 4.50	3.875– 4.50
67-69 octane:					
Oklahoma	4.75 – 5.125	4.75 – 5.125	4.625– 5.125	4.625– 5.125	4.625– 5.125
(a) North Texas	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
West Texas	(c)5.00	(c)5.00	(c)5.00	(c)5.00	(c)5.00
Mid-Western (Group 3 basis)	4.125– 4.875	4.125– 4.875	4.125– 4.875	4.125– 4.875	4.125– 4.875
70-72 octane:					
Oklahoma	5.00 – 5.375	5.00 – 5.375	5.00 – 5.375	5.00 – 5.375	5.00 – 5.375
(a) North Texas	5.00 – 5.50	5.00 – 5.50	5.00 – 5.50	5.00 – 5.50	5.00 – 5.50
West Texas	(b)5.25	(b)5.25	(b)5.25	(b)5.25	(b)5.25
East Texas	(c) 4.625–4.75	(c) 4.625–4.75	(c) 4.625–4.75	(c) 4.625–4.75	(c) 4.625–4.75
Mid-Western (Group 3 basis)	4.50 – 5.25	4.50 – 5.25	4.50 – 5.25	4.50 – 5.25	4.50 – 5.25
Motor Gasoline, 60-64 octane:					
New York harbor	5.75 – 5.90	5.75 – 5.90	5.75 – 5.90	5.75 – 5.90	5.75 – 5.90
Philadelphia district	5.75 – 6.50	5.75 – 6.50	5.75 – 6.50	5.75 – 6.50	5.75 – 6.50
Baltimore district	[illegible] 5	(b)5.75	(b)5.75	(b)5.75	(b)5.75
Motor Gasoline, 65 octane & above:					
New York harbor	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
Philadelphia district	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
Baltimore district	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00
U. S. Motor, 58-62°:					
Bradford-Warren (Western Penna.)	(b)4.625	(b)4.625	(b)4.625	(b)4.625	(b)4.625
Other districts (Western Penna.)	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
Motor Gasoline, Min. 65 octane:					
Bradford-Warren (Western Penna.)	(c) 6.25 –6.50	(c) 6.25 –6.50	(c) 6.25 –6.50	(c) 6.25 –6.50	(c) 6.25 –6.50
"Q" Gasoline:					
Bradford-Warren (Western Penna.)	(c) 6.25 –6.50	(c) 6.25 –6.50	(c) 6.25 –6.50	(c) 6.25 –6.50	(c) 6.25 –6.50
Other Districts (Western Penna.)	6.25 – 6.50	6.00 – 6.50	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25

(a) For shipment to Texas and New Mexico destinations: Group 3 prices are quoted on northern shipment. (b) One refiner quoting. (c) Two refiners quoting.

REFINERY TANK CAR MARKETS

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days). Prices in cents per gallon except heavy fuel oils in dollars per barrel of 42 gallons, tank car lots. FOB refineries in districts designated, except where otherwise noted. Inter-refinery and export prices not included, unless so stated in the respective markets. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Natural Gasoline

(Prices to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

Prices Effective	Aug. 7	July 31
FOB GROUP 3		
Grade 26-70	(l)3.00	(l)3.00
FOB BRECKENRIDGE		
Grade 26-70	(l)3.00	(l)3.00
CALIFORNIA (F.o.b. plants in Los Angeles basin) 75-85, 350-375 e.p. for blending	6.00 – 6.75	6.00 – 6.75

Kerosine

WESTERN PENNA. REFINERY QUOTATIONS		
Bradford-Warren:		
45 gravity w.w.	4.875	4.875
46 gravity w.w.	(e)5.375	(e)5.375
Other districts:		
45 gravity w.w.	4.875– 5.00	4.875– 5.00
46 gravity w.w.	(h)5.125	(h)5.125
47 gravity w.w.	5.125– 5.25	5.125– 5.25
CENTRAL MICHIGAN (a)		
47-49 gravity w.w.	4.50 – 5.00	4.50 – 5.00
OKLAHOMA		
41-43 gravity w.w.	3.625– 4.25	3.625– 4.25
42-44 gravity w.w.	3.75 – 4.625	3.75 – 4.625
KANSAS (For Kansas destinations only)		
41-43 gravity w.w.	(e)4.125	(e)4.125
42-44 gravity w.w.	4.125– 4.50	4.125– 4.50
N. TEX. (b)		
41-43 gravity w.w.	3.75 – 4.25	4.00 – 4.25
N. LA. (For shipment to La. and Ark.)		
41-43 gravity w.w.	(h)3.75 –4.125	(h)3.75 –4.125
ARK. (F.o.b. Ark. plant of one refiner for shipment to Ark. and La.)		
41-43 gravity w.w.	4.25	4.25
CALIFORNIA		
40-43 gravity w.w.	5.00 – 7.00	5.00 – 7.00

Gas *and* Fuel Oils

WESTERN PENNA. REFINERY QUOTATIONS		
Bradford-Warren:		
36-40 gravity	(e)4.625	(e)4.625
Other districts: (Excluding Pittsburgh District Prices)		
36-40 gravity	4.25	4.25
CENTRAL MICHIGAN (a)		
P.W. Distillate	4.00 – 4.50	4.00 – 4.50
No. 3 gas oil, Str.	3.75 – 4.25	3.75 – 4.25
U.G.I. gas oil	3.50 – 4.00	3.50 – 4.00
Fuel Oils (Vis. at 100):		
500-700 Vis.	(e)2.75	2.75
300-500 Vis.	(e) 2.75 – 3.00	2.75 – 3.00
100-300 Vis.	(e) 3.00 – 3.25	3.00 – 3.25
OKLAHOMA		
No. 1 prime white	3.125– 3.875	3.125– 3.875
No. 1 straw	(e)3.375	(e)3.375
No. 2 straw	3.25 – 3.375	3.25 – 3.375
No. 2 dark	(h) 2.75 – 3.25	(h) 2.75 – 3.25
U.G.I. gas oil	(h) 3.00 – 3.25	(h) 3.00 – 3.25
28-30 gravity fuel oil	(e)3.25	(e)3.25
28-30 gravity zero fuel	2.50 – 3.25	2.50 – 3.25
24-26 gravity fuel	(e) $0.85–$0.90	(e) $0.85–$0.90
14-16 gravity fuel	$0.70	$0.70
No. 6 fuel	(e) $0.45	(e)$0.45
Range oil	(h) 3.50 –3.625	(h&n)3.50-3.625
KANSAS (For Kans. destinations only).		
No. 1 p.w. fuel oil	3.75 – 3.875	3.75 – 3.875
10-14 gravity fuel oil	$0.45 –$0.80	$0.45 –$0.80
N. TEX. (b)		
No. 1 Prime white	(e)3.75	(e)3.75
N. LA. (For shipment to La. and Ark.)		
20-24 gravity fuel	(e) $0.95–$1.05	(e) $0.95–$1.05
16-20 gravity fuel	(e) $0.75–$0.85	(e) $0.75–$0.85
10-14 gravity fuel	(e) $0.65–$0.75	(e) $0.65–$0.75
ARK. (F.o.b. Ark. plant of one refiner, for shipment to Ark. and La.)		
No. 2 fuel	3.375	3.375
28-30 gravity gas oil, zero	3.125	3.125
Tractor Fuel	(j)4.50	(j)4.50

Prices Effective	Aug. 7	July 31
CALIFORNIA		
San Joaquin Valley:		
Heavy fuel	$0.55 –$0.75	$0.55 –$0.75
Light fuel	$0.75 –$0.85	$0.75 –$0.85
Diesel fuel (per gal.)	2.75 – 4.00	2.75 – 4.00
Stove dist. (per gal.)	3.00 – 5.00	3.00 – 5.00
Los Angeles:		
Heavy fuel	$0.55 –$0.90	$0.55 –$0.90
Light fuel	$0.65 –$1.00	$0.65 –$1.00
Diesel fuel (per gal.)	2.00 – 4.00	2.00 – 4.00
Stove dist. (per gal.)	2.25 – 5.00	2.25 – 5.00
San Francisco:		
Heavy fuel	$0.95	$0.95
Light fuel	$1.05	$1.05
Diesel fuel (per gal.)	4.50	4.50
Stove dist. (per gal.)	5.50	5.50

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Neutral Oils

WESTERN PENNA. REFINERY QUOTATIONS		
Viscous Neutrals No. 3 col. (Viscosity at 70° F.)		
200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	(e)20.00	(e)19.50
10 p.t.	(e)19.00	(e)18.50
15 p.t.	(e)18.50	(e)18.00
25 p.t.	16.50 –17.00	16.50 –17.00
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	(e)19.00	(e)18.50
10 p.t.	(e)18.00	(e)17.50
15 p.t.	(e)17.00	(e)16.50
25 p.t.	14.50 –15.50	14.50 –15.50

SOUTH TEXAS Vis	Color		
Pale Oils: (*Vis. at 100°F.*)			
100 No. 1½-2½		4.50 – 5.00	4.50 – 5.00
200 No. 2-3		6.00	6.00 – 6.25
300 No. 2-3		6.50	6.50 – 6.75
500 No. 2½-3½		7.50	7.50 – 7.75
750 No. 3-4		8.00	8.00 – 8.25
1200 No. 3-4		8.375– 8.50	8.375– 8.75
2000 No. 4		8.50 – 9.00	8.50 – 9.25
Red Oils:			
200 No. 5-6		6.00	6.00 – 6.25
300 No. 5-6		6.50	6.50 – 6.75
500 No. 5-6		7.50	7.50 – 7.75
750 No. 5-6		8.00	8.00 – 8.25
1200 No. 5-6		8.375– 8.50	8.375– 8.75
2000 No. 5-6		8.50 – 9.00	8.50 – 9.25

Note: Red oil prices cover oils with green cast; blue cast red oils are slightly lower in some cases.

MID-CONTINENT (Vis. at 100° F.; F.o.b. Tulsa basis).

Pale Oils: (0 to 10 P.P.) Vis.	Color		
60-85—No. 2		5.50	5.50
86-110—No. 2		6.00	6.00
150—No 3		9.00	9.00
180—No. 3		9.25 –10.00	9.50 –10.00
200—No. 3		9.75 –10.50	10.00 –10.50
250—No. 3		10.75 –11.50	11.00 –11.50
280—No. 3		12.50	12.50
300—No. 3		13.00	13.00
Red Oils:			
180—No. 5		(e)9.00	(e)9.00
200—No. 5		8.75 – 9.50	9.00 – 9.50
280—No. 5		(h) 11.50–11.75	(h) 11.50–11.75
300—No. 5		(h) 11.75–12.00	(h)12.00

Note: The following oils, of 15 to 25 p.p., are generally quoted these amounts under 0-10 p.p.; viscous oils, 0.5c; non-viscous, 0.25c. Viscous oils (150-300 vis.), No. 4 color, generally are quoted 0.5c above No. 5 color oils.

CHICAGO (Vis. at 100° F.) (e) Pale Oils 0 to 10 p.p. Vis.	Color		
60-85—No. 2		7.25	7.25
86-110—No. 2		7.75	7.75
150—No. 3		9.00	9.00
180—No. 3		10.00	10.00
200—No. 3		10.50	10.50
250—No. 3		11.50	11.50

Prices Effective	Aug. 7	July 31
CHICAGO (Continued)		
(e) Red Oils:		
180—No. 5	9.00	9.00
200—No. 5	9.50	9.50
250—No. 5	10.50	10.50
280—No. 5	11.50	11.50
300—No. 5	11.75	11.75

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower. To obtain delivered prices in Chicago, add 0.25c per gal.

Cylinder Stocks

MID-CONTINENT (F.o.b. Tulsa basis)		
Bright Stocks:		
190-200 Vis. at 210° D.	(e)19.00	(e)19.00
150-160 Vis. at 210° D:		
0 to 10 p.p.	14.25 –16.00	14.25 –16.00
10 to 25 p.p.	13.50 –15.00	13.50 –15.00
25 to 40 p.p.	(h) 13.25–13.50	(h) 13.25–13.50
150-160 vis. at 210° E.	12.50 –14.50	12.50 –14.50
120 Vis. at 210° D:		
0 to 10 p.p.	(h) 13.75–14.50	(h) 13.75–14.50
25 to 40 p.p.	(e)12.75	(e)12.75
600 S.R. Dark Green	(e)5.50	(e)5.50
600 S.R. Olive Green	(h) 7.00 –7.50	(h) 7.00 –7.50
631 S.R.	(e)12.50	(e)12.50
Black Oil	(h) 3.50 –4.00	(h) 3.50 –4.00

(e) CHICAGO (Viscosity at 210°) Unfiltered Steam Refined:		
140	9.00	9.00
160	10.00	10.00
200	11.00	11.00
Bright stocks, 160 vis. at 210. No. 8 color:		
0 to 10 p.p.	15.75	15.75
15 to 25 p.p.	14.75	14.75
30 to 40 p.p.	14.25	14.25
E filtered Cyl. Stock	13.50	13.50

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

WESTERN PENNA. REFINERY QUOTATIONS		
600 S.R. filterable	8.00 – 9.00	8.00 – 9.00
650 S.R.	10.00 –11.00	10.00 –11.00
600 fl.	10.50 –12.00	10.50 –12.00
630 fl.	13.00 –14.00	13.00 –14.00
Bright stock, 145-155 vis. at 210°, 540-550 flash, No. 8 color:		
10 p.t.	19.00 –20.00	19.00 –20.00
15 p.t.	18.00 –19.00	18.00 –19.00
25 p.t.	16.00 –17.00	16.00 –17.00

Petrolatums

WESTERN PENNA. (In bbls., carloads; in tank cars, 0.5c per lb. less. One refiner reports he equalizes freight with nearest refinery to destination).		
Snow White	5.875– 6.125	5.875– 6.125
Lily White	4.875– 5.125	4.875– 5.125
Cream White	3.875– 4.125	3.875– 4.125
Light Amber	2.50	2.50
Amber	2.25	2.25
Red	(e)2.125	(e)2.125

Wax

WESTERN PENNA. REFINERY QUOTATIONS In bbls., carloads, New York.		
122-124 A.m.p., w.c. scale	(h) 2.85 –2.95	(h) 2.85 –2.95
124-126 A.m.p., w.c. scale	2.85 – 2.95	2.85 – 2.95
OKLAHOMA (In bbls. or burlap bags, carloads)		
124-126 A.m.p., w.c. scale	(h)3.00	(h)3.00

CHICAGO (FOB Chicago district refinery of one refiner, in bags or slabs loose, carloads. Melting points are E.M.P. (A.S.T.M.) methods; add 3° F. to convert into A.m.p.)

Fully refined:		
122-124 (bags only)	4.25	4.25
125-127	4.35	4.35
127-129	4.70	4.70
130-132	5.00	5.00
132-134	5.25	5.25
135-137	6.00	6.00

(a) Prices FOB. Central Michigan refinery group basis, for shipment within Mich. Shipments may originate at plants outside Central group. (b) For shipment to Texas and New Mexico destinations: Group 3 prices quoted on northern shipments. (c) Excluding Detroit shipment. (e) One refiner quoting. (f) No quotations reported. (g) To resellers holding licenses. (h) Two refiners quoting. (j) For shipment to Ark. points only. (k) Two suppliers quoting. (l) Quotations. (m) Sales. (n) Correction: Correct price for July 31 is 3.50-3.625c, instead of 3.625c as published in Aug. 2 issue, page 40.

TANK WAGON MARKETS

Tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes, where levied, are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for March 29, April 12, April 19 and June 7, 1939, or write to NPN. These prices in effect Aug. 7, 1939, as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Essolene
(*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
*Atlantic City, N. J.	6.9	8.7	4	7
*Newark, N. J.	6.9	8.7	4	7
Annapolis, Md.	7.85	9.35	5	8
Baltimore, Md.	7.25	8.75	5	8
Cumberland, Md.	8.65	11.15	5	10
Washington, D. C.	7.5	9	3	9.5
Danville, Va.	8.45	10.95	6	12.9
Norfolk, Va.	7.25	9.75	6	10.5
Petersburg, Va.	7.55	10.05	6	11.7
Richmond, Va.	7.55	10.05	6	10.7
Roanoke, Va.	8.75	11.25	6	11
Charleston, W. Va.	8.05	10.55	6	12.6
Parkersburg, W. Va.	7.35	9.35	6	11.2
Wheeling, W. Va.	8.35	10.25	6	12.2
Charlotte, N. C.	8.4	10.9	7	11.8
Hickory, N. C.	8.95	11.45	7	12.3
Mt. Airy, N. C.	8.8	11.3	7	12.2
Raleigh, N. C.	8.15	10.65	7	11.5
Salisbury, N. C.	8.45	10.95	7	11.9
Charleston, S. C.	7.25	9.75	7	10.6
Columbia, S. C.	8.25	10.75	7	11.6
Spartanburg, S. C.	8.95	11.45	7	12.4

Discount to undivided dealers: thru territory, except New Jersey points, which see in "Note" below: Dealer t.w. price less 0.5c per gal.

*Effective Dec. 1, 1938, S. O. New Jersey posted a minimum retail resale price of 11.2c thru New Jersey, except Trenton area and Cumberland county.

Note: While the above posted prices continue at Atlantic City and Newark, N. J., dealers will pay a net price of 8.2c per gal. for Essolene. Dealers having pumps marked only Esso, Essolene and "Standard" White gasoline will pay 7.7c per gal. for Essolene.

Kerosine Discount: 1c off t.w. price' or 25 gals., or more, under contract thru territory (Baltimore City contract not necessary) except no discount in state of New Jersey.

Socony-Vacuum Oil Co., Inc.

(S. O. New York Division)

Socony Mobilgas
(*Regular Grade*)

	Consumer Tank Car	"Split" Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
Metropolitan N.Y. City: Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens)	6.6	8.5	*5	6.75
Borough of Richmond (Staten Is.)	6.6	8.5	*5	6.75
Albany, N. Y.	6.5	8.8	5	7
Binghamton, N. Y.	7.8	10	5	8
Buffalo, N. Y.	7.5	8.5	5	7.75
Jamestown, N. Y.	7	8.5	5	7.5
Plattsburg, N. Y.	7.1	9.6	5	7.5
Rochester, N. Y.	7.6	9	5	7.75
Syracuse, N. Y.	7.2	8.5	5	7.25
Danbury, Conn.	7.3	9	4	7.75
Hartford, Conn.	6.9	9	4	6.50
New Haven, Conn.	6.8	8.25	4	6
Bangor, Me.	6.9	7	5	7
Portland, Me.	6.5	8.5	5	6.75
Boston, Mass.	6.5	8.25	4	6.5
Concord, N. H.	7.3	9.6	5	7.5
Lancaster, N. H.	8.1	10.6	5	8.5
Manchester, N. H.	7.2	8.2	5	7.25
Providence, R. I.	6.5	8.3	4	6.5
Burlington, Vt.	7	8.5	5	7.25
Rutland, Vt.	7.4	8.5	5	7.5

*Plus 2% city sales tax computed at time of each sale.

Discount to undivided dealers: 0.5c less than "split" dealer t.w.

Atlantic Refining

Atlantic White Flash Gasoline
(*Regular Grade*)

	Commercial Tank Car	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
Philadelphia, Pa.	7	8.5	5	10
Pittsburgh	8	9.5	5	10.5
Allentown	7.5	9	5	10.5
Erie	8	9.5	5	10
Scranton	8	9.5	5	10.5
Altoona	8	10	5	10.5
Harrisburg	7.5	9	5	10.5
Williamsport	8	9.5	5	10.5
Dover, Del.	...	9	5	10.5
Wilmington	...	8.5	5	9.75
Boston, Mass.	...	8.25	4	6.25
Springfield, Mass.	...	8.5	4	7
Worcester, Mass.	...	8.5	4	7
Fall River, Mass.	...	8	4	7
Hartford, Conn.	...	9	4	6.5
New Haven, Conn.	...	8.25	4	7
Providence, R. I.	...	8.3	4	6.5
Atlantic City, N. J.	...	8.2	4	7
Camden, N. J.	...	8.1	4	7
Trenton, N. J.	...	8.2	4	7
Annapolis, Md.	...	9.35	5	9.5
Baltimore, Md.	...	8.75	5	8
Hagerstown, Md.	...	9.85	5	10
Richmond, Va.	...	10.05	6	10.7
Wilmington, N. C.	...	9.85	7	10.8
Brunswick, Ga.	8.5	9.5	7	*10.5
Jacksonville, Fla.	...	8	8	10

*Georgia has kerosine tax of 1c per gal., not included in above price.

Discount to undivided dealers: Dealer t.w. less 0.5c per gal. except in Georgia and Florida, dealer t.w. and undivided dealer price is same.

Discounts: At Scranton, Pa., 1c per gal. voluntary discount allowed to dealers only at time of delivery, effective July 8, 1939.

Kerosine discount: Thru Pennsylvania and Delaware, 2c per gal. off t.w. price on t.w. deliveries of 25 gals. or more at one time, effective since Oct. 29, 1936.

S. O. Ohio

Sohio X-70 Gasoline
(Regular Grade)

	Consumer T.W.	†Divided Dlr.	‡S.S.	Gaso-line Taxes	Kero-sine T.W.
Ohio, Statewide	10.5	9.5	12.5	5	*12
Akron	10.5	8.5	10.5	5	*8.5
Cincinnati	10.5	9	11.5	5	*12
Cleveland	10.5	9.5	12.5	5	*12
Columbus	10.5	9	11.5	5	*12
Dayton	10.5	9	11.5	5	*12
Marietta	10.5	9	11.5	5	*12
Portsmouth	10.5	9.5	12.5	5	*12
Toledo	10.5	8.5	11	5	*12
Youngstown	10.5	9	11.5	5	*11.5

Renown Gasoline
(Third Grade)

Ohio, Statewide	10.5	9.5	12.5	5	....
Akron	10.5	8.5	10.5	5	....
Cincinnati	10.5	9	11.5	5	....
Cleveland	10.5	9.5	12.5	5	....
Columbus	10.5	9	11.5	5	....
Dayton	10.5	9	11.5	5	....
Marietta	10.5	9	11.5	5	....
Portsmouth	10.5	9.5	12.5	5	....
Toledo	10.5	8.5	11	5	....
Youngstown	10.5	9	11.5	5	....

Note: Prices at other Ohio points may be obtained by writing NPN.

*Ohio has kerosine tax of 1c per gal., not included in above prices.

†This price also to authorized agents, exclusive of 0.5c rental.

‡Prices are at company-operated service stations.

Discount to undivided dealers: 0.5c less than divided dealer t.w.

S. O. Kentucky

Crown Gasoline
(*Regular Grade*)

	Consumer T.W.	Net Dlr.	Gaso-line Taxes	Kero-sine T.W.
Covington, Ky.	11.5	8.5	6	9.5
Lexington, Ky.	13.5	10.5	6	10
Louisville, Ky.	12.5	9.5	6	9
Paducah, Ky.	12	9	6	9
Jackson, Miss.	12	9	7	*9
Vicksburg, Miss.	12	9	7	*8.5
Birmingham, Ala.	13	10	*8	8.5
Mobile, Ala.	9.5	6.5	*9	8.5
Montgomery, Ala.	13	10	*9	*9.5
Atlanta, Ga.	14	11	7	*8
Augusta, Ga.	13	10	7	*8
Macon, Ga.	12	9	7	*9
Savannah, Ga.	12	9	7	*7
Jacksonville, Fla.	12	9	8	8
Miami, Fla.	11.5	8.5	8	8
Pensacola, Fla.	12	9	*9	8
Tampa, Fla.	12	9	8	7.5

Kyso Gasoline
(*Third Grade*)

Covington, Ky.	10	7.5	6	....
Lexington, Ky.	12	9.5	6	....
Louisville, Ky.	11	8.5	6	....
Paducah, Ky.	10	7.5	6	....
Jackson, Miss.	10.5	8	7	....
Vicksburg, Miss.	10.5	8	7	....
Birmingham, Ala.	11	8.5	*8	....
Mobile, Ala.	8	5.5	*9	....
Montgomery, Ala.	11	8.5	*9	....
Atlanta, Ga.	12	8.5	7	....
Augusta, Ga.	11.5	9	7	....
Macon, Ga.	9.5	7	7	....
Savannah, Ga.	10	7.5	7	....
Jacksonville, Fla.	10.5	8	8	....
Miami, Fla.	9.5	7	8	....
Pensacola, Fla.	10.5	8	*9	....
Tampa, Fla.	10.5	8	8	....

Discounts to all tank wagon consumers: Effective Jan. 4, 1937, thru territory, on Crown gasoline, 3c per gal. below consumer t.w. price; on Kyso, 2.5c below, regardless of quantity purchased, per month

**Taxes*: In the tax column is included these city and county gasoline taxes at the following points: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have kerosine taxes of 1c per gal., and Mississippi 0.5c, not included in above prices.

S. O. Indiana

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Prices Red Crown	Stano-lind	Gaso-line Taxes	Kero-sine T.W.
Chicago, Ill.	11.1	9.1	6.9	4	10
Decatur, Ill.	11.1	9.6	8.2	4	10
Joliet, Ill.	11.1	9.6	8.1	4	10
Peoria, Ill.	11.1	9.6	9.1	4	10
Quincy, Ill.	10.9	9.4	8.9	4	9.8
Indianapolis, Ind.	11.8	10.3	8.9	5	*10.7
Evansville, Ind.	11.6	10.1	9.6	5	*10.5
South Bend, Ind.	12.1	10.6	9.6	5	*10
Detroit, Mich.	9.6	8.1	7.6	4	7.1
Grand Rapids, Mich.	10	8.5	8	4	9.7
Saginaw, Mich.	11.8	9.3	8.6	4	9.3
Green Bay, Wis.	11.9	10.4	9.9	5	10.8
Milwaukee, Wis.	11.3	9.8	9.3	5	10.2
La Crosse, Wis.	11.5	10	9.5	5	10.4
Minneapolis-St. Paul	11.5	10	9.5	5	10.4
Duluth, Minn.	11.9	10.4	9.9	5	10.8
Mankato, Minn.	11.5	10	9.5	5	9.4
Des Moines, Ia.	10.9	9.4	8.9	4	*9.8
Davenport, Ia.	11.1	9.6	8.4	4	*10
Mason City, Ia.	11.3	9.8	6.9	4	*10.2
St. Louis, Mo.	10.7	9.2	8	*4	8
Kansas City, Mo.	10.4	8.9	7.9	*4	8
St. Joseph, Mo.	10.4	8.9	8.4	4	7.9
Fargo, N. D.	12.7	11.2	10.7	5	11.6
Huron, S. D.	12	10.5	10	5	10.9
Wichita, Kans.	9.9	6.6	5.5	4	7.4

*Taxes: in the tax column is included these city and state gasoline taxes at following points: Kansas City, St. Joseph and St. Louis, 1c city tax. Kerosine taxes: Indiana has 4c, Iowa 3c per gal. state tax, not included in above prices.

S. O. Nebraska

Standard Red Crown Gasoline
(*Regular Grade*)

	T.W.	Dealer	Gaso-line Taxes	Kero-sine T.W.
Omaha, Neb.	11.5	10	6	10.3
McCook	10.5	6.9	6	9
Norfolk	11	9.9	6	9
North Platte	12.3	10.8	6	11.1
Scottsbluff	12	9	6	11

S. O. Louisiana

Essolene
(*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
Little Rock, Ark.	7.25	9.75	7.5	10
Alexandria, La.	6.75	9.25	8	*11.5
Baton Rouge, La.	6.75	9.25	8	*9.5
New Orleans, La.	6.75	9.25	*10	*9
Lake Charles, La.	6.75	9.25	8	*11.5
Shreveport, La.	5.5	8	8	*10
Lafayette, La.	7	9.5	8	*10
Bristol, Tenn.	10.25	9	8	13
Chattanooga, Tenn.	9.5	11.5	8	12
Knoxville, Tenn.	10	12.5	8	14.5
Memphis, Tenn.	8	10.5	8	11
Nashville, Tenn.	9	11.5	8	12

*Taxes: New Orleans gasoline tax includes 7c state, 1c federal, and 2c parish tax. Louisiana has kerosine tax of 1c per gal.; in addition New Orleans has 1c parish tax, none of which are included in above prices.

Price basis to dealers: Undivided dealers get dealer price, less 0.5c.

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon, figured on basis of 50 gallons per barrel:
Alabama, 1/40c on gasoline, 1/2c on kerosine; Arkansas, 1/5c per gal. in a single barrel, 1/20c per gal. in bulk; Florida 1/8c; Illinois, 3/100c; Indiana, 1/5c per gal. in lots up to 27 bbls.; 2/25c per gal. in lots of 25 bbls. or more; Kansas, 1/50c, (3/50c can be charged to meet inspection department expenses); Louisiana, 1/32c; Minnesota, 1/25c; Missouri, 3/100c; Nebraska, 3/100c; Nevada, gasoline, 1/20c; North Carolina, 1/4c; North Dakota, 1/20c; Oklahoma, 2/25c per gal. lots of more than 50, in bbls., 1/5c in lots less than 50 bbls.; South Carolina, 1/8c; South Dakota, 1/10c; Tennessee, 2/5c; and Wisconsin, 3/100c.
Kerosine inspection fee only: Iowa, 3/50c; Michigan, 1/5c per gal.

TANK WAGON MARKETS

Tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1c federal, and state taxes: also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes: kerosine taxes, where levied, are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for March 29, April 12, April 19 and June 7, 1939, or write to NPN. These prices in effect Aug. 7, 1939, as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

Humble Oil & Refining Co.

Humble Motor Fuel
(*Regular Grade*)

	*T.W.	S.S.	Gasoline Taxes	Kerosine T.W.
Dallas, Tex	8	12	5	8
Ft. Worth, Tex	8	12	5	7
Houston, Tex	9	13	5	8
San Antonio, Tex	9	13	5	8

Thriftane
(Leaded, 67 Octane, Purple Gasoline)

Dallas	7	10	5
Ft. Worth	7	10	5
Houston	8	11	5
San Antonio	8	11	5

U. S. Motor Gasoline
(*Third Grade*)

Dallas, Tex	6.5	..	5
San Antonio, Tex	7	..	5

*These tank wagon prices apply to all classes of dealers and consumers.

Continental Oil

Conoco Bronz-z-z (Regular Grade)

	††T.W.	Dealer	Gasoline Taxes	Kerosine ‡T.W.
Denver, Col	9	..	5	11.5
Grand Junction, Col	13.5	..	5	15
Pueblo, Col	11	..	5	9
Casper, Wyo	12.5	..	5	11.5
Cheyenne, Wyo	10.5	..	5	13
Billings, Mont	12.5	..	6	13
Butte, Mont	14	..	6	15.5
Great Falls, Mont	13.5	..	6	15.5
Helena, Mont	14.5	..	6	15.5
Salt Lake City, Utah	12.5	12.5	5	16
Boise, Ida	**14.6	*14.6	6	18
Twin Falls, Ida	**15.1	**15.1	6	18
Albuquerque, N. M	10.5	10.5	†6.5	10
Roswell, N. M	9	9	†6.5	8
Santa Fe, N. M	10.5	10.5	*7	10
Ft. Smith, Ark	9	..	5	7.5
Little Rock, Ark	9.25	..	7.5	8
Texarkana, Ark	9	..	5	8
Muskogee, Okla	8	..	5	7
Oklahoma City, Okla	7	..	5	6.5
Tulsa, Okla	8	..	5	7

Demand Gasoline
(Third Grade)

Denver, Col	8	..	5	....
Grand Junction, Col	12.5	..	5	....
Pueblo, Col	10	..	5	....
Casper, Wyo	11.5	..	5	....
Cheyenne, Wyo	9.5	..	5	....
Billings, Mont	11.5	..	6	....
Butte, Mont	11	..	6	....
Great Falls, Mont	10.5	..	6	....
Helena, Mont	13.5	..	6	....
Salt Lake City, Utah	11.5	11.5	5	....
Boise, Ida	**13.6	**13.6	6	....
Twin Falls, Ida	**14.1	**14.1	6	....
Albuquerque, N. M	8.5	8.5	†6.5	....
Roswell, N. M	8	8	†6.5	....
Santa Fe, N. M	9.5	9.5	*7	....
Ft. Smith, Ark	6.5	..	5	....
Little Rock, Ark	7	..	7.5	....
Texarkana, Ark	6.5	..	5	....
Muskogee, Okla	7	..	5	....
Oklahoma City, Okla	6.5	..	5	....
Tulsa, Okla	7	..	5	....

†Includes city tax of 0.5c.
*Includes 1c city tax.
‡Prices are in t.w. deliveries to consumers and dealers.
**Prices include 0.1c to cover 1-mill tax for toll bridges.
††T.w. prices in all states except Utah, Idaho and New Mexico are to consumers and dealers.

S. O. California

Standard Gasoline
(*Regular Grade*)

	T.W.	S.S.	Gasoline Taxes	Kerosine T.W.
San Francisco, Cal	13.5	14.5	4	11.5
Los Angeles, Cal	13	14	4	10
Fresno, Cal	14.5	15.5	4	12.5
Phoenix, Ariz	14	15	6	*12.5
Reno, Nev	15.5	16.5	5	13.5
Portland, Ore	14	15	6	13.5
Seattle, Wash	14	15	6	†13.5
Spokane, Wash	15.5	16.5	6	†16.5
Tacoma, Wash	14	15	6	†13.5

Flight Gasoline
(*Third Grade*)

San Francisco, Cal	12	13	4	....
Los Angeles, Cal	11.5	12.5	4	....
Fresno, Cal	13	14	4	....
Reno, Nev	14	15	5	....
Phoenix, Ariz	11	12	6	....
Portland, Ore	12.5	13.5	6	....
Seattle, Wash	12.5	13.5	6	....
Spokane, Wash	13	14	6	....
Tacoma, Wash	12.5	13.5	6	....

*Arizona has kerosine tax of 5c per gal., not included in above prices.
†Washington has 0.25c per gal. tax on kerosine sales, not included in above prices.
Discount to 100% dealers, thru territory, off posted t.w. prices, on gasolines: on Standard Ethyl, Standard Gasoline and Stanavo Aviation, 3c per gal.; on Flight gasoline, 2c.

Canada

PRICES OF IMPERIAL OIL LTD.
Per Imperial Gallon, which is 1.2 U. S. Gallons
3-Star Imperial Gasoline
(*Regular Grade*)

	T.W.	Gasoline Taxes	Kerosine T.W.
Hamilton, Ont	15	8	15.5
Toronto, Ont	15	8	15.5
Brandon, Man	21	7	22
Winnipeg, Man	19.5	7	20.5
Regina, Sask	19	7	21
Saskatoon, Sask	21.3	7	23.3
Edmonton, Alta	19.4	7	21.4
Calgary, Alta	16.5	7	18.5
Vancouver, B. C	16	7	23
Montreal, Que	14	8	14.5
St. John, N. B	13.5	10	17.5
Halifax, N. S	13.5	10	17.5

Discounts to undivided dealers, 1c off t.w. price, except Maritime Provinces where undivided dealers pay t.w. price. Divided dealers pay t.w. price, thru territory.

Aviation Gasoline

Following are tank car, tank wagon or dealer prices, as indicated, of aviation gasoline in several marketing territories.

S. O. OHIO
Thru Ohio

	Esso Aviation Consumer T.W.	Gasoline Taxes
74 octane	15.5	5
80 octane	16.5	5
87 octane	17.5	5

Discounts: For delivery on contract to hangar operators and resellers: 2c below consumer posted t.w. price, shown above.

S. O. INDIANA
Stanavo Ethyl Aviation Gasoline
73 Octane Number

Chicago, Ill	14.9	
Detroit, Mich	16.5	4
Milwaukee, Wis	15.1	5
Minneapolis, Minn	15.3	5
St. Louis, Mo	14.5	3
Kansas City, Mo	14.2	*4
Fargo, N. D	16.5	4
Huron, S. D	15.8	5

*Includes 1c city tax.

HUMBLE OIL & REFINING CO.
74 Octane Aviation Gasoline, Clear

	Tank Car
FOB Baytown, Tex	8.5

CONTINENTAL OIL CO.
Conoco Special Gasoline

	T.W. & Dealer Price	Gasoline Taxes
Denver, Colo	15	5
Cheyenne, Wyo	15.5	5
Helena, Mont	22.5	6
Salt Lake City, Utah	18	5
Albuquerque, N. M	14	*6.5

*Includes city tax of 0.5c.

S. O. CALIFORNIA
Stanavo Aviation Gasoline

	T.W.	
Phoenix, Ariz	17.5	6
Los Angeles, Cal	15	4
San Francisco, Cal	15.5	4
Reno, Nev	17.5	5
Portland, Ore	16	6
Seattle, Wash	16	6
Spokane, Wash	19	6

Note: For discounts, etc., see note under Standard and Flight gasoline above.

Naphtha (In Tank Wagon)

S. O. NEW JERSEY

	Posted Tank Wagon Prices Mineral Spirits	V.M. & P.
Newark, N. J	11.5	15.5
Baltimore, Md	15.5	....
Washington, D. C	15	....

Discounts: Buyers taking following quantities at one time, get these discounts: Newark, 2c per gal. on 200 gals. or more; less than 200 gals., 0.5c higher price. Baltimore 2c off on 25 to 100 gals. and 3c on over 100 gals. Washington, 2c off to contract buyers.

SOCONY-VACUUM OIL CO.

Buffalo, N. Y	10.5	12
*New York City	9.5	10.5
Rochester, N. Y	12	12
Syracuse, N. Y	12	14.5
Boston, Mass	11	11
Bridgeport, Conn	11	11.5
Hartford, Conn	10.5	11
Providence, R. I	11	12

*Prices apply to consumers only in quantities over 1,000 gals. annually. For quantities under 1,000 gals. annually, add 0.5c per gal.

ATLANTIC REFINING CO.

Philadelphia, Pa	12	14.5
Lancaster, Pa	13.5	16.5
Pittsburgh, Pa	14.5	14.5

Note: Prices for Mineral Spirits also apply to Stoddard Solvent; and prices for V.M.&P. Naphtha apply also to Light Cleaners Naphtha.

Discounts: Philadelphia, 200 gals. or more at one time, 2c per gal. less. Lancaster, contract buyers taking 1,000 gals. or more per year, one drum up, 2c per gal. less; non-contract buyers, 200 gals. or more at one time, 2c per gal. less. Pittsburgh, 500 gals. or more at one time, 2c.

S. O. OHIO

	S.R. Solvent	V.M.&P. Naphtha
Thru Ohio	12.5	13.5

Note: V.M.&P. Naphtha prices also apply on Dry Cleaners naphtha and special Varnolene; Varnolene and Sohio Solvent 0.5c below these prices. Discounts to contract consumers off t.w. price; 300 to 999 gals., 0.5c; 1,000 to 2,499 gals., 0.75c; 2,500 to 4,999 gals., 1c; 5,000 or more gals., 1.5c.

S. O. INDIANA
(*Prices include state and federal taxes*)

	Oleum Spirits	V.M.&P. Naphtha	Stanisol
Chicago, Ill	16.2	16.5	15.9
Detroit, Mich	19.2	18.2	19.7
Kansas City, Mo	13.9	14.9	14.4
St. Louis, Mo	14.2	15.2	12.9
Milwaukee, Wis	18.8	19.8	19.3
Minneapolis, Minn.	19	20	17.7

Note: All prices, with exception of Missouri points, include state tax. Prices shown are base prices, before discounts.

Naphtha (In Tank Cars)

In Tank Cars (F. o. b. refinery or seaboard terminal except Ohio, delivered price.)

	V.M.&P. Naphtha	Solvent
Baltimore	10.5	9.5
New York Harbor	10	9
Philadelphia district	10.5	9
Boston	10.5	9.5
Providence	10.5	9.5
†Ohio points, delivered	8.5	*8

*This is on rubber solvent.
†In Ohio, prices on D.C. naphtha and special Varnolene are same as V.M.&P.; on Varnolene and Sohio Solvent, prices are 0.125c less than on V.M.&P.

Price Changes

Dates and amounts of changes. See table for full current prices.

Socony-Vacuum Oil—Socony Mobilgas:
Buffalo consumer t.c. up 0.1c, dealer t.w. up 1.7c, July 31.
Portland dealer t.w. up 0.7c, Aug. 1.
Kerosine:
Buffalo t.w. up 0.25c, Aug. 1.
Atlantic Refining—Atlantic White Flash:
Altoona dealer t.w. up 1c, July 21.
Brunswick commercial tank car price established at 8.5c, Aug. 2.
S. O. Indiana—Stanolind:
Chicago dealer price cut 1c, Aug. 7.
South Bend dealer price cut 0.5c, July 29.
Davenport dealer price cut 0.7c, Aug. 2.
S. O. Louisiana—Kerosine:
Chattanooga t.w. cut 2c, July 29.
Continental Oil—Conoco Bronz-z-z:
Oklahoma City t.w. cut 1c, July 21.
Demand Gasoline:
Oklahoma City t.w. cut 0.5c, July 21.
Conoco Special Gasoline:
T.w. and dealer prices up 0.5c, thru Colorado, Wyoming, Montana, Utah and Southern Idaho, June 15.
Canada, Imperial Oil—3 Star Imperial Gasoline and Kerosine:
Edmonton t.w. cut 0.1c, July 24.

Naphtha
Atlantic Refining—Mineral Spirits:
Philadelphia and Lancaster t.w. up 0.5c, May 20, 1938.
Pittsburgh t.w. up 2c, Nov. 22, 1937.
V. M. & P. Naphtha:
Philadelphia t.w. up 2c, Lancaster t.w. up 2.5c, May 20, 1938.

Coming Meetings

North Carolina Oil Jobbers Assn., Ocean Terrace Hotel, Wrightsville Beach, Wilmington, N. C., Aug. 5.
Retail Gasoline Dealers Assn. of Wisconsin, 7th annual convention, Hotel Retlaw, Fond du Lac, Wis., Aug. 8, 9.
Michigan Petroleum Assn., Traverse City, Mich., some time in September.
American Institute of Mining and Metallurgical Engineers, Industrial Minerals Division, Tuscaloosa, Ala., Sept. 2, 3, 4.
American Society of Mechanical Engineers, Hotel Pennsylvania, and Engineering Societies Bldg., 29 West 39th St., New York, Sept. 4 to 8.
Oil Workers International Union, Hammond Ind., Sept. 5.
Kentucky Petroleum Marketers Assn., annual fall conference and golf tournament, Lafayette Hotel and Ashland Golf Club, Lexington, Sept. 7.
American Chemical Society, Detroit, Sept. 9 to 13.
North American Gasoline Tax Conference, annual meeting, Nicolet Hotel, Minneapolis, Minn., Sept. 11 to 13.
Montana National Bituminous Conference, Sun Valley, Idaho, Sept. 11 to 14.
National Assn. of Petroleum Retailers, Des Moines, Iowa, Sept. 11 to 14.
American Chemical Society, Boston, Mass., Sept. 11 to 15.
National Petroleum Assn., 37th annual meeting, Hotel Traymore, Atlantic City, N. J., Sept. 13, 14, 15.
Oil Trades Assn. of New York, sports day, Pelham Country Club, Pelham, N. Y., Sept. 19.
West Virginia Oil & Natural Gas Assn., annual convention, Charleston, W. Va., Sept. 27, 28.
New Jersey Oil Trades Assn., fall outing, Sept. 28.
Society of Automotive Engineers, Hotel Schroeder, Milwaukee, Sept. 28, 29.
National Lubricating Grease Institute, Stevens Hotel, Chicago, Oct. 2, 3.
American Institute of Mining and Metallurgical Engineers, Petroleum Division, Galveston, Tex., Oct. 4, 5, 6.
Western Petroleum Refiners Assn., regional technical meeting, Allis Hotel, Wichita, Kan., Oct. 5.
Texas Mid-Continent Oil & Gas Assn., 20th annual meeting and convention, Rice Hotel, Houston, Tex., Oct. 5, 6, 7.
Society of Automotive Engineers, National Aircraft production meeting, Ambassador Hotel, Los Angeles, Calif., Oct. 5, 6, 7.
American Gas Assn., annual convention, New York, Oct. 9, 10.
Society of Automotive Engineers, Annual dinner, Hotel Pennsylvania, New York, Oct. 16.
Independent Petroleum Assn. of America, 10th annual meeting, Ft. Worth, Tex., Oct. 18-20.
National Tax Conference, Palace Hotel, San Francisco, week of Oct. 16.
40th Annual National Automobile Show, Grand Central Palace, New York, week of Oct. 15.
National Safety Congress and Exposition, Convention Hall, Atlantic City, N. J., Oct. 16 to 20. Petroleum Section, Ambassador Hotel.
American Institute of Mining and Metallurgical Engineers, Petroleum Division, Los Angeles, Oct. 19, 20.
Western Petroleum Refiners Assn., regional technical meeting, Allis Hotel, Wichita, Kan., Oct. 5.
West Virginia Petroleum Assn., second annual meeting, Hotel Daniel Boone, Charleston, W. Va., Oct. 25.
Society of Automotive Engineers Transportation & Maintenance Meeting, Coronado Hotel, St. Louis, Mo., Oct. 26, 27.
Colorado Petroleum Industries Committee, annual convention, Shirley-Savoy Hotel, Denver, Oct. 27.
Western Petroleum Refiners Assn., regional technical meeting, Washington-Youree Hotel, Shreveport, La., Oct. 27.
Oil Trades Assn. of New York, annual banquet, Waldorf-Astoria Hotel, New York, Nov. 1.
Society of Automotive Engineers Fuel & Lubricants Meeting, Mayo Hotel, Tulsa, Okla., Nov. 2, 3.
National Motor Truck Show, Navy Pier, Chicago, Nov. 8-16.
American Petroleum Institute, 20th annual meeting, Stevens Hotel, Chicago, Nov. 13-17.
American Institute of Chemical Engineers, 32nd annual meeting, Providence-Biltmore Hotel, Providence, R. I., Nov. 15, 16, 17.
American Society of Mechanical Engineers, Philadelphia, Pa., Dec. 4 to 7.
17th Exposition of Chemical Industries, Grand Central Palace, New York, Dec. 4 to 9.
West Central Texas Oil & Gas Assn., Abilene, Tex., some time in December.

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Society of Automotive Engineers, Annual Meeting and Engineering Display, Book-Cadillac Hotel, Detroit, Jan. 15 to 19.
American Institute of Mining and Metallurgical Engineers, New York, Feb. 12 to 15.
Kentucky Petroleum Marketers Assn., 14th annual meeting and convention, Brown Hotel, Louisville, Ky., Feb. 14, 15.
Ohio Petroleum Marketers Assn., Deshler-Wallick Hotel, Columbus, O., Feb. 27, 28 and 29.
American Assn. of Petroleum Geologists, Stevens Hotel, Chicago, April 10, 11, 12.
American Petroleum Institute, Eastern District, Division of Production, Columbus, O., April 11, 12.
National Petroleum Assn., 37th semi-annual meeting, Hotel Cleveland, Cleveland, O., Apr. 18, 19.
Natural Gasoline Assn. of America, 19th annual convention, Hotel Tulsa, Tulsa, May 15, 16, 17.

TANK WAGON MARKETS, HEATING OILS

Prices in Effect Aug. 7, 1939

Following are posted tank wagon prices of various grades of heating oil at the points shown in various territories. Prices are in cents per gallon.

	No. 1	No. 2	No. 4
S. O. NEW JERSEY			
Atlantic City, N. J.	7.0	5.75	5.75
Newark	7.0	5.75	5.75
Annapolis, Md	....	6.5	....
Baltimore	6.75	6.25	5.75
Washington, D. C.	7.00	6.50	6.50
Norfolk, Va	7.0	6.0	6.0
Petersburg	7.25	6.25	....
Richmond	7.25	6.25	6.25
Charlotte, N. C.	8.75	7.5	....
Hickory	....	8	....
Raleigh	8.75	7.25	....
Charleston, S. C.	8.5	7.0	....
Columbia	9.5	8.0	....
Spartanburg	10.2	8.7	....
SOCONY-VACUUM OIL CO. INC. (S. O. New York Division)			
New York City	5.75	5.75	5.75
Albany, N. Y.	5.75	5.75	5.25
Rochester, N. Y.	6.75	6.75	6.75
Boston, Mass.	5.75	5.75	5.75
Bangor, Me.	6.00	6.00	6.00
Manchester, N. H.	6.00	6.00	6.00
Burlington, Vt.	6.25	6.25	6.25
Hartford, Conn.	6.00	6.00	6.00
New Haven, Conn.	5.50	5.50	5.50
Providence, R. I.	5.50	5.50	5.50

Note: Prices for No. 1 fuel in Socony-Vacuum territory same as for kerosine which see in tank wagon table for various cities; prices change with kerosine.

ATLANTIC REFINING

	Numbers 1	2	3	4	5	6
Phila., Pa.	7.75	6.0	6.0	6.0	3.75	3.00
Allentown, Pa.	8.5	6.5	6.5	6.5	....	....
Wilmington, Del.	7.75	5.5	5.5	5.5	....	....
Springfield, Mass.	7.0	5.5	....	....	....	....
Worcester, Mass.	7.0	5.50	....	5.50	....	....
Hartford, Conn.	6.5	6.0	....	6.0	....	....

	S. O. OHIO No. 1	No. 2	No. 3
Columbus Division and Cleveland	7.50	7.50	7.00
City of Lima	8.00	8.00	7.00
Rest of Ohio	8.00	8.00	7.50

Note: S. O. Ohio prices are for full compartment hose dumps, bucket dumps are 0.5c per gallon higher.

S. O. INDIANA
Stanolex Fuel and Furnace Oils

	No. 1 Fuel	Stanolex Furnace
Chicago	(a)6.75	6.75
Indianapolis	....	(b)7.8
Detroit	....	7.1
Milwaukee	8.4	7.7
Minneapolis	7.8	7.8
St. Louis	7.7	(c)6.7
Kansas City	6.8	6.8

(a) For 400 gals. and over; 150 to 399 gals., 7.25c; 1 to 149 gals., 8.25c.
(b) Excluding 4c state tax.
(c) For 400 gals. & over; 100 to 399 gals., 7c; 1 to 99 gals., 8c.
Note: Small-lot deliveries of light fuel oils range up to 2c higher than above quotations.

TRADEMARKS

The following are trademark applications pertinent to our field pending in the United States Patent Office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D. C., trademark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the National Trade-Mark Company, stating that you are a reader of this journal.

WAYNE—Serial No. 393,351, The Wayne Pump Company, Fort Wayne, Ind. Filed May 27, 1937, for—

Combination apparatus for dispensing, metering, cost calculating, quantity calculating, or registering, alone or in combination, in connection with the sale, supply, dispensing and the like, of liquids or petroleum products such as oil or gasoline, and parts thereof. Published July 25, 1939.

THERMOIL, Serial No. 419,459. Vegetable Oil Products Company, Inc. Wilmington, California. Filed May 15, 1939.

For oils and greases for use in the manufacture of paint. Published August 1, 1939.

DESALTO, Serial No. 414,904. The Tret-O-Lite Company, Webster Groves, Mo. Filed January 16, 1939.

For organic compounds and solutions for the refining of petroleum. Published August 1, 1939.

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline-Kerosine Cents per Cwt.	Gasoline-Kerosine Cents per gal. 6.6 lbs.	Distillate-Gas Oil-Fuel Oil Cents per Cwt.	Distillate-Gas Oil-Fuel Oil Cents per gal. 7.4 lbs.
Chicago, Ill.	40	2.640	32	2.368
Decatur, Ill.	39	2.574	31	2.294
Joliet, Ill.	40	2.640	32	2.368
Peoria, Ill.	39	2.574	31	2.294
Quincy, Ill.	36	2.376	29	2.146
Indianapolis, Ind.	48	3.168	39	2.886
Evansville, Ind.	46	3.036	37	2.738
South Bend, Ind.	53	3.498	42	3.108
Detroit, Mich.	64	4.224	51	3.774
Gd. Rapids, Mich.	62	4.092	50	3.700
Saginaw, Mich.	66	4.356	53	3.922
Green Bay, Wis.	51	3.366	41	3.034
Milwaukee, Wis.	43	2.838	34.5	2.553
LaCrosse, Wis.	46	3.036	37	2.738
Min'ap'is-St. Paul	46	3.036	37	2.738
Duluth, Minn.	52	3.432	41.5	3.071
Mankato, Minn.	46	3.036	37	2.738
Des Moines, Ia.	36	2.376	29	2.146
Davenport, Ia.	39	2.574	31	2.294
Mason City, Ia.	42	2.772	33.5	2.479
St. Louis, Mo.	33	2.178	26.5	1.961
Kansas City, Mo.	28	1.848	22.5	1.665
St. Joseph, Mo.	28	1.848	22.5	1.665
Fargo, N. D.	63	4.158	50.5	3.737
Minot, N. D.	83	5.478	66.5	4.921
Huron, S. D.	53	3.498	42.5	3.145
From Ponca City	13	*0.858	13	†0.858
Wichita				
From Tulsa	21	*1.386	21	†1.386
From Cushing	19	*1.254	19	†1.254

*This rate also includes distillate rate at 6.6 lbs. per gal.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

SEABOARD MARKETS, EXPORT AND COASTWISE

All prices on this page are publisher's opinion of open market quotations or sales, for spot shipment (10 to 15 days). In cargo markets, spot shipment is 90 days. Prices in cents per gallon, except heavy fuel oil in dollars per barrel, in tank car lots, f.o.b. refineries or seaboard terminals in districts designated, unless otherwise noted. Federal, state or municipal taxes not included. Prices quoted apply on products made from legally produced crude. Unless otherwise noted, gasoline octane ratings are determined by C.F.R. Motor method, A.S.T.M. D-357-33T; and lubricating oil specifications determined according to A.S.T.M. methods, unless otherwise noted.

Eastern Domestic

(Inter-refinery and export prices not included.)

MOTOR GASOLINE

Prices Effective	Aug. 7	
District:	60-64 Oct.	65 Oct. & Above
N. Y. harbor	5.75	6.00 – 6.25
(a) N. Y. harbor	5.75	5.75 – 6.00
Philadelphia	5.75	6.00 – 6.25
Baltimore	(n)5.75	6.00 – 6.25
Norfolk	6.125– 6.375	6.25 – 6.75
Wilmington, N. C.	6.00	6.25 – 6.50
Charleston, S. C.	6.00 – 6.375	6.50 – 6.75
Savannah	5.75 – 6.375	6.25 – 6.75
Jacksonville	5.75 – 6.375	6.25 – 6.75
Portland	.....	(o)
Boston	(o)	6.00 – 6.25
Providence	(o)	6.00 – 6.25

WATER WHITE KEROSINE

District:			
N. Y. harbor	4.25	Charleston	4.75-5.25
(a) N. Y. harbor	4.125	Savannah	5.00-5.125
Philadelphia	4.50 – 4.75	Jacksonville	5.00-5.125
Baltimore	4.75	Portland	4.375
Norfolk	4.75 – 4.875	Boston	4.375
Wilmington, N.C.	4.75 – 4.875	Providence	4.25–4.375

(b) FUEL OILS

	N. Y. harb.	N. Y. harb. barges
No. 1	4.25	4.125
Nos. 2-3	3.875	3.75
No. 4	3.625– 3.875	3.50 – 3.75
No. 5	(m) $1.25	.....
No. 6	$1.05	.....

	Phila. dist.	Balt. dist.
No. 1	4.50 – 4.75	4.75
Nos. 2-3	4.25	4.25
No. 4	4.00 – 4.25	4.00 – 4.25
No. 5	$1.25	$1.25
No. 6	$1.05	$1.05

	Bost. dist.	Prov. dist.
No. 1	4.375	4.25 – 4.375
Nos. 2-3	4.00	3.875
No. 4	3.875—4.00	3.875
No. 5	$1.35	(n)$1.30
No. 6	$1.05	$1.05

District:	(c) Bunker C Fuel	(c) Diesel Oil
N. Y. harbor	$1.05	$1.65 –$1.70
Philadelphia	$1.05	$1.65
Baltimore	$1.05	$1.65
Norfolk	$1.05	$1.65
Charleston	$1.00	$1.65 –$1.75
Savannah	$1.00	$1.785
Jacksonville	$1.00	$1.785
Tampa	$0.95	$1.785
Portland	$1.05	$1.75
Boston	$1.05	$1.65
Providence	$1.05	$1.65

	Diesel Oil Shore Plants	Gas Oil 28-34 Gravity
New York harbor	(q)3.875–4.00	3.875– 4.125
Philadelphia dist.	4.25	4.25
Baltimore dist.	4.25	4.25
Norfolk dist.	4.25	4.25
Charleston dist.	4.25	4.25
Jacksonville dist.	4.25	.....
Tampa dist.	4.25	.....
Portland dist.	4.00	4.375
Boston dist.	3.929– 4.00	4.00 – 4.125
Providence dist.	3.875– 4.00	4.125

Pacific Export

(c) (Quotations are at seaboard, Los Angeles, in cargo lots, cents per gal., except where otherwise noted.)

Prices Effective	Aug. 7	July 31
U. S. Motor, under 65 oct.	4.25 – 4.375	4.25 – 4.375
400 e.p. blend, under 65 oct	4.375– 4.50	4.375– 4.50
400 e.p. blend 65 oct. & above	4.50 – 4.75	4.50 – 4.75
(d) 38-40 gravity, w.w. kerosine	4.25 – 4.50	4.25 – 4.50
41-43 gravity, w.w. kerosine	4.50 – 4.75	4.50 – 4.75
44 gravity, w.w. kerosine	5.00 – 5.25	5.00 – 5.25

Prices Effective	Aug. 7	July 31
In Cargo lots, per bbl.		
Diesel fuel, 24 & above	$0.95 –$1.05	$0.95 –$1.05
Diesel fuel, under 24	$0.85 –$0.90	$0.85 –$0.90
(f) 30-34 gravity, diesel (gas oil)	$1.05 –$1.20	$1.05 –$1.20
(g) Grade C fuel oil	$0.58 –$0.65	$0.58 –$0.65
In Ships' Bunkers, or deep tank lots, per bbl.:		
(f) Diesel fuel oil	$1.30 –$1.45	$1.30 –$1.45
(g) Grade C fuel oil	$0.70 –$0.90	$0.70 –$0.90
Cased Goods: (Per case		
U. S. Motor	$1.35 –$1.45	$1.35 –$1.45
400 e.p. blend, under 65 octane	$1.40 –$1.50	$1.40 –$1.50
375-400 e.p. blend, 65 oct. & above	$1.50 –$1.60	$1.50 –$1.60
(d) 40-43 gravity, w.w. kerosine	$1.30 –$1.40	$1.30 –$1.40
Kerosine, p.w.	$1.25 –$1.35	$1.25 –$1.35

New York Export

(Cents per gal. in bbls. FAS. New York)

CYLINDER OILS (Pennsylvania Products)

Bright stock:		
Light, 25 p.t.	23.50 –24.00	23.50 –24.00
Neutral oil:		
200 3 color, 25 p.t.	24.00	24.00
150 3 color, 25 p.t.	22.00 –23.00	22.00 –23.00
600 s.r., unfiltered	15.50 –16.00	15.50 –16.00
650 s.r., unfiltered	17.50 –18.50	17.50 –18.50
600 fl., s.r.	18.00 –19.50	18.00 –19.50
630 fl., s.r.	20.50 –21.50	20.50 –21.50

Wax, Domestic *and* Export

(A.S.T.M. Tests. Meltin- points, however, are A.M.P., 3 higher than E.M.P. Export prices, FAS., carloads. Domestic prices, FOB. refineries, in bags, carloads, with 0.2c discount allowed for shipment in bulk, except where noted below. Scale solid; fully refined, slabs in bags)

Prices Effective	Aug. 7	
	New York Domestic	New York Export
124-6 Y.C. scale	2.80	2.80
122-4 W.C. scale	2.85	2.85
124-6 W.C. scale	2.85	2.85
123-5 Fully rfd.	(h) 3.75 –4.00	3.625
125-7 Fully rfd.	(h) 3.90 –4.15	3.75
128-30 Fully rfd.	(h) 4.00 –4.25	4.00
130-2 Fully rfd.	(h) 4.35 –4.60	4.25
133-5 Fully rfd.	(h) 4.65 –4.90	4.65
135-7 Fully rfd.	(h)5.15	5.00
	New Orleans Domestic	New Orleans Export
124-6 Y.C. scale	2.80	2.80
122-4 W.C. scale	2.85	2.85
124-6 W.C. scale	2.85	2.85
123-5 Fully rfd.	(h) 3.75 –4.00	3.625
125-7 Fully rfd.	(h) 3.90 –4.15	3.75
128-30 Fully rfd.	(h) 4.00 –4.25	4.00
130-2 Fully rfd.	(h) 4.35 –4.60	4.25
133-5 Fully rfd.	(h) 4.65 –4.90	4.65

Gulf Coast

(FOB. ship at Gulf for domestic and export shipment; minimum 20,000 bbls.; representing traders' opinions)

MOTOR GASOLINE

	Aug. 7		
	60-62 Gravity, 400 e.p.	61-63 Gravity, 390 e.p.	64-66 Gravity, 375 e.p.
60 octane	4.50 – 4.625	4.50 – 4.625	4.50 – 4.75
65 octane	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
67 octane	(p)4.875-5.00	(p)4.875-5.00	(p)4.875-5.00
68 octane	5.00 – 5.125	5.00 – 5.125	5.00 – 5.125
70 octane	5.00 – 5.50	5.125– 5.50	5.125– 5.50
72-74 oct.	(q)5.25–5.50	5.25	5.25

Prices Effective	Aug. 7	July 31
KEROSINE		
44 gravity, w.w.	3.75 – 3.875	3.75 – 3.875
41-43 gravity, w.w.	3.50 – 3.75	3.50 – 3.75
41-43 gravity, p.w.	3.50 – 3.625	3.50 – 3.625

Prices Effective	Aug. 7	July 31
GAS AND BUNKER OILS		
Gas Oil (i):		
Below 43 diesel index	3.125	3.125
43-47 diesel index	3.25	3.25
48-52 diesel index	3.375	3.375
53-57 diesel index	3.375– 3.50	3.375– 3.50
58 & above	3.50	3.50
LIGHT FUEL OILS		
No. 1	3.50	3.50
No. 2	3.25	3.125– 3.25
DIESEL and BUNKER OILS		
(c) Diesel Oil	$1.45	$1.45
(c) Grade C bunker oil	$0.80 –$0.85	$0.80 –$0.85
Grade C bunker oil, in cargoes	$0.78 –$0.80	$0.78 –$0.80

MID-CONTINENT LUBRICATING OILS

(Cents per gal. at Gulf; in bbls., FAS.; in bulk, FOB terminals)

	Aug. 7 (j) Barrels	Bulk
190-200 vis. D. 210 brt. stock	22.00	17.80
150-160 vis. D 210 brt. stock:		
0-10 p.p.	18.50 –19.00	14.25 –14.30
10-25 p.p.	18.00 –18.50	13.75 –13.80
150-160 vis. E. 210 brt. stock	18.00	13.80
120 vis. D 210 brt. stock	17.25 –17.50	13.00 –14.50

	Aug. 7 Bulk	July 31 Bulk
180 vis. No. 3 color neutral:		
0-10 p.p.	10.05 –11.50	10.05 –11.50
15-30 p.p.	9.55 –11.00	9.55 –11.00
200 vis. No. 3 color neutral:		
0-10 p.p.	10.80 –12.00	10.80 –12.00
15-30 p.p.	10.30 –11.50	10.30 –11.50
600 s.r. olive green	9.00 –11.25	9.00 –11.25
600 s.r. dark green	7.00 – 9.25	7.00 – 9.25

SOUTH TEXAS LUBRICATING OILS

(Vis. at 100° cold test 0, bulk export shipment, FOB terminals.)

Unfiltered Pale Oils:

Vis.	Color		
100	No. 3	4.50	4.50 – 4.75
200	No. 3	6.00	6.00 – 6.25
300	No. 3	6.50	6.50 – 6.75
500	No. 3½	7.50	7.50
750	No. 4	8.00	8.00 – 8.25
1200	No. 4	8.375	8.375– 8.75
2000	No. 4	8.50	8.50 – 9.00

Red Oils:

Vis.	Color		
100	No. 5-6	4.50	4.50 – 4.75
200	No. 5-6	6.00	6.00 – 6.25
300	No. 5-6	6.50	6.50 – 6.75
500	No. 5-6	7.50	7.50
750	No. 5-6	8.00	8.00 – 8.25
1200	No. 5-6	8.375	8.375– 8.75
2000	No. 5-6	8.50	8.50 – 9.00

Note: Red oil prices cover oils with green cast; prices for blue cast red oils are slightly lower in some cases.

Tanker Rates

(Approximate freight rates to Continental ports shillings per ton of 2240 lbs., British sterling; U. S. ports cents per bbl.)

Rates Effective Aug. 7

	Crude & /or Fuel		Refined Oil & /or Spirits	
	Last Paid	Owners Ask	Last Paid	Owners Ask
Gulf-U.K./Cont.(k)	9/9	9/6 to 10/-	10/6	10/6 to 11/-
Aruba-U.K./Cont. (k)	8/6	8/6 to 9/-	9/3	9/6 to 10/-
Gulf-N. Atlantic(l) (not E. of N.Y.): Hvy. Crude & fuel, (10 to 19.9 gravity)	17c	17c	....	....
Light Crude, (30 Grav. or Lighter)	(q)16c	15c	....	....
Gasoline	....	....	(q)15c	14.5-15c
Kerosine	....	....	15c	15.5-16c
Light Fuel	....	....	16c	16.5-17c

(a) In barge lots. (b) Fuel oils meet specifications of U. S. Commercial standards CS12-35. (c) Ships' bunkers. Lighterage, additional at some points, not included. (d) 150 fire point. (e) For San Francisco cargo prices, add 5c per bbl. to cargo prices shown above. (f) Pacific Specification 200. (g) Pacific Specification 400. (h) Shipment in bags or in bulk. (i) Less than ½ of 1% sulfur. (j) Second-hand barrels. (k) Continental ports in range between Bordeaux and Hamburg, both inclusive. (l) Venezuela loading, same rate: Tampico, 2c to 3c per bbl. additional. (m) Low pour test, low viscosity, No. 5 generally quoted at $1.35. (n) One refiner quoting. (o) No prices reported. (p) Two refiners quoting. (q) Correct prices for July 31 for following products were: Gulf Motor Gasoline, 72-74 octane, 5.25-5.50c instead of 5.25c; for July 31 and July 24, Eastern Domestic market, Diesel Oil, shore plants, New York harbor, 3.875-4.00c, instead of 3.75-4.00c; and correct tanker rates, July 31, for light crude, last paid, was 16c, and for gasoline, last paid, 15c.

CRUDE OIL MARKETS

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

EASTERN FIELDS

Posted by Joseph Seep Purchasing Agency

(Effective March 6, 1939, except Corning Jan. 24, 1939)

Penna. Grade Oil in Southwest Penna. Pipe Lines $1.65
Penna. Grade Oil in Eureka Pipe Lines (West Virginia) $1.59
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O.) $1.55
Corning Oil in Buckeye Pipe Lines (Ohio) .. $1.02

Posted by Other Companies

Tide Water Associated Oil Co.
Bradford-Allegany district (Penna. and N. Y.) (Effective March 6, 1939) $2.00
*The Pennzoil Co.: (Effective March 6, 1939)
Penna. Grade Oil in National Transit Lines *1.93
*The Pennzoil Co. posts $1.93 in Cochran, Franklin, Hamilton and Doolittle, Pa. fields, prices in other lower districts range down to $1.88 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co.

Midland, Midland County (April 17, 1939) ... $0.975

Posted by Simrall Corp.

(Effective April 20, 1939)

Crystal, Greendale, Porter and Wise $0.975
Beaverton, Buckeye, Bentley, Edenville $0.95
Freeman $0.89

(Effective April 18, 1939)

West Branch, Arenac, and equal grades $0.74

Posted by Bay Pipe Line Corp.

(Effective April 20, 1939)

Bentley and Buckeye $0.95
Saginaw and Wise $0.975

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

(Effective June 8, 1939)

Illinois and Western Indiana $0.95
Illinois Basin $1.05

Posted by Sohio Corp.

(Effective June 8, 1939)

Illinois Basin $1.05

(Effective July 15, 1939)

Griffin (Ind.) pool, sand wells $0.85
Griffin (Ind.) pool, McCloskey lime $0.80

Posted by Carter Oil Co.

(Effective June 10, 1939)

Louden, Fayette County, Ill. $1.05

Posted by Ashland Oil & Transportation Co.

(Effective June 9, 1939)

Somerset Oil in Ashland Lines, Kentucky:
Big Sandy River $1.02
Kentucky River $1.10

Posted by Stoll Oil Refining Co.

(Effective June 10, 1939)

Stoll Pipe Line Oil (Ky.) $0.90

Posted by Fordsville Gathering Line, Inc.

Western Kentucky

(Effective June 9, 1939)

Birk City Area $0.90
Owensboro Area $1.00
Corydon Area (Henderson) $0.90

CANADIAN FIELDS

Posted by Imperial Oil Limited

Western Ontario

(Effective Oct. 25, 1938)

Petrolia $1.90
Oil Springs $1.97

Alberta—Turner Valley

(Prices f.o.b. field tankage)

(Effective Jan. 5, 1938)

Crude Oil

40-40.9°	$1.14	53-53.9	$1.40
41-41.9	1.16	54-54.9	1.42
42-42.9	1.18	55-55.9	1.44
43-43.9	1.20	56-56.9	1.46
44-44.9	1.22	57-57.9	1.48
45-45.9	1.24	58-58.9	1.50
46-46.9	1.26	59-59.9	1.52
47-47.9	1.28	60-60.9	1.54
48-48.9	1.30	61-61.9	1.56
49-49.9	1.32	62-62.9	1.58
50-50.9	1.34	63-63.9	1.60
51-51.9	1.36	64-64.9	1.62
52-52.9	1.38		

Crude Naphtha, 65 grav. & above $2.14

Absorption Gasoline

90% Rec., 20 lb. Reid v.p. $1.94
90% Rec., 17 lb. Reid v.p. $2.08

MID-CONTINENT

Oklahoma-Kansas

*(Effective Oct. 11 to 22, 1938; and Feb. 16, 1939)

	S. O. Indiana	Carter Oil Co. Magnolia Shell	Continental Texas Co.	Sinclair-Prairie
Below 21°	$0.70	$0.60	....	....
21-21.9	.72	.63	....	....
22-22.9	.74	.66	....	....
23-23.9	.76	.69	....	....
24-24.9	.78	.72	....	....
25-25.9	.80	.75	....	$0.58
26-26.9	.82	.78	....	.63
27-27.9	.84	.81	....	.68
28-28.9	.86	.84	$0.86	.73
29-29.9	.88	.87	.88	.78
30-30.9	.90	.90	.90	.82
31-31.9	.92	.92	.92	.86
32-32.9	.94	.94	.94	.90
33-33.9	.96	.96	.96	.96
34-34.9	.98	.98	.98	.98
35-35.9	1.00	1.00	1.00	1.00
36-36.9	1.02	1.02	1.02	1.02
37-37.9	1.04	1.04	1.04	1.04
38-38.9	1.06	1.06	1.06	1.06
39-39.9	1.08	1.08	1.08	1.08
40 & above	1.10	1.10	1.10	1.10

*Effective by Carter Oil, Oct. 13, posting in Okla. only; Continental Oil, Oct. 11, with lowest grade below 29; Magnolia, Oct. 12, posting in Okla. only; Shell, Oct. 22; Sinclair-Prairie, Feb. 16, 1939; S. O. Indiana, Oct. 17; The Texas Co., Oct. 12.

North-North Central and Central Texas

*Effective 1938:	Stanolind Oct. 17	†Sinclair-Prairie Oct. 11	*Texas Co. *Continental *Magnolia
Below 21°	$0.60	....	....
21-21.9	.62	....	....
22-22.9	.64	....	....
23-23.9	.66	....	....
24-24.9	.68	$0.76	$0.79
25-25.9	.70	for	for
26-26.9	.72	oil	oil
27-27.9	.74	below	below
28-28.9	.76	29°.	29°.
29-29.9	.78	.78	.81
30-30.9	.80	.80	.83
31-31.9	.82	.82	.85
32-32.9	.84	.84	.87
33-33.9	.86	.86	.89
34-34.9	.88	.88	.91
35-35.9	.90	.90	.93
36-36.9	.92	.92	.95
37-37.9	.94	.94	.97
38-38.9	.96	.96	.99
39-39.9	.98	.98	1.01
40 & above.	1.00	1.00	1.03

*Effective Oct. 11, by Continental, in North Tex.; Oct. 12, by Texas Co. in North & North Central Texas. Texas Co.'s lowest grade is 28-28.9, at $0.79; by Magnolia, Dec. 3, in N. and N. Central Texas.
†Sinclair-Prairie prices are in N. Cent. Texas and Mexia.

Jefferson County, Texas

Posted by Magnolia Petroleum Co.

Beaumont

(Effective Oct. 12, 1938)

Below 20°	$0.79	30-30.9	$1.08
20-20.9	.82	31-31.9	1.10
21-21.9	.85	32-32.9	1.12
22-22.9	.88	33-33.9	1.14
23-23.9	.91	34-34.9	1.16
24-24.9	.94	35-35.9	1.18
25-25.9	.97	36-36.9	1.20
26-26.9	1.00	37-37.9	1.22
27-27.9	1.02	38-38.9	1.24
28-28.9	1.04	39-39.9	1.26
29-29.9	1.06	40 & above	1.28

*For below 21°.

Oct. 11, '38, Stanolind Oil & Gas Co. posted same gravity and price schedule in West Beaumont field as Magnolia.

TEXAS FIELDS

Posted by Humble Oil & Refining Co.

**West Central Texas*

(Effective Dec. 3, 1938)

24-24.9	$0.71	33-33.9	$0.89
25-25.9	.73	34-34.9	.91
26-26.9	.75	35-35.9	.93
27-27.9	.77	36-36.9	.95
28-28.9	.79	37-37.9	.97
29-29.9	.81	38-38.9	.99
30-30.9	.83	39-39.9	1.01
31-31.9	.85	40 & above	1.03
32-32.9	.87		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, Throckmorton and Young Counties.
Note: Effective Oct. 1, 1937, Humble prices are based on 100% tank tables at 60F.

**East Central Texas*

(Effective Oct. 11, 1938)

23-23.9	$0.78	32-32.9	$0.96
24-24.9	.80	33-33.9	.98
25-25.9	.82	34-34.9	1.00
26-26.9	.84	35-35.9	1.02
27-27.9	.86	36-36.9	1.04
28-28.9	.88	37-37.9	1.06
29-29.9	.90	38-38.9	1.08
30-30.9	.92	39-39.9	1.10
31-31.9	.94	40 and above	1.12

Posted by Pan American Pipe Line Co.

(Effective Feb. 15, 1939)

Cayuga, Anderson county $0.68
*Including Anderson, Cherokee, Limestone, Navarro counties.

PANHANDLE TEXAS

Posted by Humble Oil & Refining Co.

(Effective Dec. 3, 1938)

	Gray County	Carson-Hutchinson
28-28.9	$0.72	$0.67
29-29.9	.74	.69
30-30.9	.76	.71
31-31.9	.78	.73
32-32.9	.80	.75
33-33.9	.82	.77
34-34.9	.84	.79
35-35.9	.86	.81
36-36.9	.88	.83
37-37.9	.90	.85
38-38.9	.92	.87
39-39.9	.94	.89
40 & above	.96	.91

Effective Oct. 11, 1938, Sinclair Prairie posted same prices in Panhandle Texas as Humble posted Dec. 3. Dec. 3, Magnolia met Humble.

EAST TEXAS

Gulf, Humble, Magnolia, Sinclair Prairie, Stanolind, Texas Co., Tide-Water Associated $1.10
*Effective Oct. 11 by Humble, Sinclair Prairie, and Stanolind; Oct. 12 Magnolia, Texas, Tide Water; Oct. 13 by Gulf.

NORTHEAST TEXAS

(Posted by Humble, Oct. 11, 1938)

Talco $0.55

(Posted by Magnolia, Oct. 12, 1938)

Cass County and Panola County, Tex.:
Same gravity and price schedule as S. O. Louisiana posts for N. La.-Ark. Crude, which see under that company.

(Posted by The Texas Co., Oct. 12, 1938)

Cass County $1.05

WEST TEXAS and NEW MEXICO

(a) (Effective Oct. 11, 1938 to March 24, 1939)

	Humble	Magnolia Stanolind	Shell	Texas Co. Sinclair
Below 20°	$0.53	(b)	$0.53	(c)
20-20.9	.55	....	.55	....
21-21.9	.57	....	.57	....
22-22.9	.59	....	.59	....
23-23.9	.61	....	.61	....
24-24.9	.63	....	.63	....
25-25.9	.65	....	.65	.65
26-26.9	.67	.67	.67	.67
27-27.9	.69	.69	.69	.69
28-28.9	.71	.71	.71	.71
29-29.9	.73	.73	.73	.73
30-30.9	.75	.75	.75	.75
31-31.9	.77	.77	.77	.77
32-32.9	.79	.79	.79	.79
33-33.9	.81	.81	.81	.81
34-34.9	.83	.83	.83	.83
35-35.9	.85	.85	.85	.85
36-36.9	.87	.87	.87	.87
37-37.9	.89	.89	for	for
38-38.9	.91	.91	oil	oil
39-39.9	.93	.93	36° &	36° &
40 & above	.95	.95	above.	above.

Pecos County, West Texas

(Posted by Humble and Shell, Oct. 11, 1938)

Pecos $0.78
Yates Shallow Pool (Shell) ..... .65

(a) Effective by Humble Oil & Refg., Shell Oil, Stanolind Oil & Gas, and Sinclair Prairie, Oct. 11, 1938; by Magnolia Petroleum and The Texas Co., Oct. 12, 1938. On March 24, 1939, Sinclair Prairie revised its posting from 40 & above, to 36 & above, at $0.87.

(b) Magnolia posts $0.63 for below 25; $0.65 for 25-25.9. Stanolind posts $0.65 for below 26.

(c) Texas Co. posts $0.65 for below 26; Sinclair Prairie, $0.63 for below 25.

Note: Humble's postings are in these counties: Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler and Yoakum, West Texas; and Lea county, N. Mex.; Magnolia's are in Crane, Glasscock, Howard, Mitchell, Upton and Winkler; Shell, in Crane, Ector, Glasscock, Howard, Upton, Winkler, Lea; Stanolind in Hendrick field, Winkler county; Texas Co. in Ward, Winkler and Lea; Sinclair in W. Texas and Lea.

Posted by Sinclair Prairie Oil Marketing Co.

(Effective Oct. 11, 1938)

Eddy county, N. Mex. $0.77

Posted by Continental Oil Co.

(Effective Oct. 11, 1938)

Artesia, Jackson and Maljamar pools, New Mexico; gravity schedule beginning with below 29, at $0.61; 29-29.9, at $0.63; plus 2c differential for each gravity, up to 40 & above, at $0.85.

COLORADO

Posted by Continental Oil Co.

(Effective Oct. 11, 1938)

Ft. Collins and Wellington

Below 29	$0.81	35-35.9	$0.95
29-29.9	.83	36-36.9	.97
30-30.9	.85	37-37.9	.99
31-31.9	.87	38-38.9	1.01
32-32.9	.89	39-39.9	1.03
33-33.9	.91	40 & above	1.05
34-34.9	.93		

Canon City and Florence, Col. $0.90

SOUTH AND SOUTHWEST TEXAS

All Shown Below Posted by Humble Oil & Refining Co.

(Effective Oct. 11, 1938)

Carroll, Clark, Darst Creek, Hilbig, Salt Flat and Zoboroski crudes $0.96
Van crude $0.93
Conroe $1.27

(Effective Dec. 3, 1938)

Flour Bluff $1.23

Oct. 12, '38, Magnolia met Humble in Darst Creek; posted $0.87 in Luling; $0.99 in Lytton Springs; $1.14 for Cleveland, and $1.02 in Hardin, both in Liberty county, Tex.

Oct. 12, '38, The Texas Co. met Humble in Darst Creek.

**Anahuac and Dickinson*

(Effective Dec. 3, 1938)

Below 20°	$0.74	30-30.9	$1.03
20-20.9	.77	31-31.9	1.05
21-21.9	.80	32-32.9	1.07
22-22.9	.83	33-33.9	1.09
23-23.9	.86	34-34.9	1.11
24-24.9	.89	35-35.9	1.13
25-25.9	.92	36-36.9	1.15
26-26.9	.95	37-37.9	1.17
27-27.9	.97	38-38.9	1.19
28-28.9	.99	39-39.9	1.21
29-29.9	1.01	40 & above	1.23

*Includes Cedar Point, Fairbanks, Gillock, Hull, Pierce Junction and Raccoon Bend (shallow sand).

Raccoon Bend (Deep sand crude) Tomball and Satsuma

(Effective Dec. 3, 1938)

22-22.9	$0.95	27-27.9	$1.05
23-23.9	.97	28-28.9	1.07
24-24.9	.99	29-29.9	1.09
25-25.9	1.01	30-30.9	1.11
26-26.9	1.03	31-31.9	1.13

(Continued on next page)

CRUDE OIL MARKETS

(Continued from preceding page)

32-32.9	$1.15	37-37.9	$1.25
33-33.9	1.17	38-38.9	1.27
34-34.9	1.19	39-39.9	1.29
35-35.9	1.21	40 & above	1.31
36-36.9	1.23		

Dec. 3, Magnolia met above price and gravity schedule in Tomball.

Posted by Humble

***Mirando**

(Effective Dec. 3, 1938)

Below 20°	$0.74	30-30.9	$1.03
20-20.9	.77	31-31.9	1.05
21-21.9	.80	32-32.9	1.07
22-22.9	.83	33-33.9	1.09
23-23.9	.86	34-34.9	1.11
24-24.9	.89	35-35.9	1.13
25-25.9	.92	36-36.9	1.15
26-26.9	.95	37-37.9	1.17
27-27.9	.97	38-38.9	1.19
28-28.9	.99	39-39.9	1.21
29-29.9	1.01	40 & above	1.23

*Includes Duval, Jim Hogg, Jim Wells, Webb and Zapata counties, Tex. and Heyser and Placedo crudes.

Oct. 12, '38, Texas Co. posted for Duval-Mirando, $0.77 for below 21, plus 3c differential to 26-26.9, $0.95; 27-27.9, $0.97; 28 & above, $0.99.

Dec. 3, Humble's Mirando schedule met by Magnolia.

LOUISIANA-ARKANSAS

Posted by Standard Oil Co. of Louisiana

(Effective Oct. 5, 1938)

	*N. La.-Ark.	†Columbia County, Ark.	‡South Louisiana
Below 21°	$0.73	$0.66	$0.74
21-21.9	for	for	.77
22-22.9	oil	oil	.80
23-23.9	Below	Below	.83
24-24.9	25°	25°	.86
25-25.9	$0.75	$0.68	.89
26-26.9	.77	.70	.92
27-27.9	.79	.72	.94
28-28.9	.81	.74	.96
29-29.9	.83	.76	.98
30-30.9	.85	.78	1.00
31-31.9	.87	.80	1.02
32-32.9	.89	.82	1.04
33-33.9	.91	.84	1.06
34-34.9	.93	.86	1.08
35-35.9	.95	.88	1.10
36-36.9	.97	.90	1.12
37-37.9	.99	.92	1.14
38-38.9	1.01	.94	1.16
39-39.9	1.03	.96	1.18
40 & above	1.05	.98	1.20

(Effective Oct. 5, 1938)

Smackover, Ark. $0.73

Posted by Arkansas Fuel Oil Corp.

(Effective Jan. 28, 1937)

Urania, La. $1.02

Posted by Continental Oil Co.

(Effective Oct. 11, 1938)

Tepetate and Ville Platte, La. $1.03

(Effective Jan. 1, 1939)

Abbeville, La.

Below 36	$0.92	38-38.9	$0.98
36-36.9	.94	39-39.9	1.00
37-37.9	.96	40 & above	1.02

Posted by Caddo Crude Oil Purchasing Corp.

(Effective July 17, 1939)

Allison area, Shreveport field $0.95

Lisbon, N. La.

(Effective Aug. 1, 1939)

27-27.9	$0.56	32-32.9	$0.66
28-28.9	.58	33-33.9	.68
29-29.9	.60	34-34.9	.70
30-30.9	.62	35 & above	.72
31-31.9	.64		

*Includes Bunkie, Caddo, Carterville, DeSoto, Homer, Haynesville, Rodessa, Sabine and Sarepta, in N. La.; El Dorado and Miller County, Ark. (latter is Ark. part of Rodessa field).

Note: S. O. Louisiana prices in all La.-Ark. fields, effective Oct. 5, 1938, are on 100% tank table basis.

†Includes Buckner, Magnolia, and Village pools.

‡Includes these fields: Baton Rouge, Bayou, Choctaw, Cheneyville, Darrow, Jeanerette, Lirette, N. Crowley and Roanoke.

Oct. 12, 1938, Magnolia Petroleum and The Texas Co. posted same gravity and price schedule as S. O. La. posts in N. La.-Ark. in these fields: Magnolia, in Bull Bayou, Cotton Valley, Haynesville, Pine Island and Rodessa, La., and Eldorado and Rainbow, Ark.; Texas Co. in N. La. Both also met S. O. La in Smackover. Texas Co. posted $1.24 for Garden Island, La. and $1.04 for Lafitte, La.

***GULF COASTAL FIELDS**

Posted by Humble Oil & Refining Co.

†(Effective Oct. 11, 1938)

Below 20	$0.79	30-30.9	$1.08
20-20.9	.82	31-31.9	1.10
21-21.9	.85	32-32.9	1.12
22-22.9	.88	33-33.9	1.14
23-23.9	.91	34-34.9	1.16
24-24.9	.94	35-35.9	1.18
25-25.9	.97	36-36.9	1.20
26-26.9	1.00	37-37.9	1.22
27-27.9	1.02	38-38.9	1.24
28-28.9	1.04	39-39.9	1.26
29-29.9	1.06	40 & above	1.28

Polk County, Tex.
(Posted by Shell Oil Co., Inc)

Livingston Area (Effective Oct. 11, '38)	$1.10		
Schwab Area (Effective Feb. 20, '39)	1.00		

†Effective Dec. 3, 1938, gravities up to 45 & above discontinued in Refugio, Saxet, Greta, O'Connor-McFadden, Taft, Plymouth and Tom O'Connor fields.

*Humble's prices apply in these Texas fields: Amelia, Clear Lake, Goose Creek, Mykawa, Sugarland, Thompsons, Webster and West Columbia; also Refugio, Saxet, Greta, O'Connor-McFadden, Taft, Plymouth and Tom O'Connor fields.

Oct. 11, 1938, Stanolind posted in Clinton, Hastings, High Island, So. Houston, and Spindletop same prices as Humble in Texas Gulf Coast fields, except that Stanolind's lowest grade is below 21, at $0.82.

Oct. 12, 1938, The Texas Co. posted for Texas & La. Gulf Coast crude: $0.82 for below 21 plus 3c to 26-26.9, which is $1; from there on, 2c, to 34 & above, which is $1.16. In Refugio, same as other Gulf Coast, except highest gravity is 28 & above, $1.04.

Effective Oct. 11, 1938, Sinclair Prairie met Humble's Gulf Coast price & gravity schedule.

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co.

(Effective Oct. 11, 1938)

Salt Creek, (except Tensleep crude), Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma-Kansas, ranging from $0.86 to $1.10, which see under Mid-Continent crude on previous page.

Tensleep, Salt Creek field	$0.646
Iles, heavy	0.92
Elk Basin, light	0.90
Grass Creek, light	0.90
Frannie light	0.55
Grass Creek, heavy	0.40
Hamilton Dome, Wyo.	0.35
Frannie heavy	0.42

Posted by Ohio Oil Co.

(Effective Oct. 11, 1938)

Elk Basin, Wyo.	$0.90
Grass Creek, light	0.90
Rock Creek	1.00
Lance Creek	0.77
Dry Creek, Mont.	0.92

(Effective May 1, 1938)

Grass Creek, heavy	$0.50

(Effective Nov. 16, 1937)

Sunburst, Mont.	$0.90

Posted by Continental Oil Co.

(Effective Oct. 11, 1938)

Cat Creek, Mont.	$1.10
Big Muddy, Wyo.	0.98
Lance Creek, Wyo.	0.77

CALIFORNIA, *Posted by Standard Oil of California*

All gravities above those quoted take highest price offered in the field. Prices effective Feb. 26, 1936, except Huntington Beach, Playa del Rey, Santa Fe Springs, Kern Front, Signal Hill (Long Beach) effective March 7, 1936; Elk Hills effective June 22, 1936; Lakeview Area, Aug. 19, 1936; El Segundo and Wilmington, Oct. 15, 1937; Greeley-Canal, July 9, 1938; Santa Maria Valley, by Union Oil, Oct. 15, 1938.

Gravity	Signal Hill (Long Beach) †El Segundo †Wilmington	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda Brea Canon	Athens Rosecrans	Dominguez	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	‡Newhall and others	Mountain View	Elk Hills	Buena Vista Hills Midway-Sunset Lakeview Area	Greeley-Canal (Kern County)	Lost Hills	Coalinga	Wheeler Ridge
13-13.9																							
14-14.9	$0.80	$0.79	$0.74	$0.78	$0.79	$0.80	$0.76	....	....	$0.80	$0.76	$0.76	$0.77	$0.78	....	$0.70	....	$0.70	$0.70	....	$0.70	$0.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	.80	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	.82	.76	.76	.77	.78	....	.70	....	.70	.70	....	.70	.70	....
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	.85	.76	.78	.77	.78	....	.70	.70	.74	.74	....	.74	.71	.70
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	.88	.78	.82	.77	.80	....	....	.70	.78	.78	....	.78	.72	.70
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	.91	.80	.85	.77	.84	.78	....	.73	.82	.82	....	.82	.74	.70
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	.93	.84	.89	.79	.88	.78	....	.77	.87	.87	....	.86	.78	.72
23-23.9	.95	.86	.77	.96	.99	1.02	.96	.84	.79	.96	.88	.93	.82	.92	.78	....	.80	.92	.92	....	.90	.82	.76
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	.99	.91	.96	.85	.96	.82	....	.84	.97	.97	....	.94	.86	.79
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	1.02	.95	....	.89	.99	.86	....	.88	1.01	1.01	....	.98	.90	.83
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	1.05	.98	....	.92	1.03	.90	....	.91	1.06	1.06	....	1.02	....	....
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	1.02	....	.96	1.06	.95	....	.95	1.10	1.10	$0.91	1.06	....	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	1.06	....	.99	1.10	.99	....	.99	1.15	1.15	.94	1.10	....	....
29-29.9	1.17	1.15	.93	1.18	1.18	....	1.17	1.12	.93	....	1.09	....	1.03	1.14	1.03	....	1.02	1.20	1.20	.98	1.14	....	....
30-30.9	1.21	1.19	.95	1.22	1.21	....	1.21	1.17	.95	....	....	....	1.07	1.17	1.08	....	1.06	1.25	1.25	1.02	1.18	....	....
31-31.9					1.24		1.24	1.22	.97	....	....	....	1.11	1.21	1.12	....	1.09	1.29	1.29	1.06			
32-32.9	*Ellwood Terrace			....	1.27		1.27	1.27	1.00	....	....	....	1.14	1.25	1.16	....	1.13	1.34	1.34	1.09	Kettleman Hills		
33-33.9	....	1.28	....	....	....		....	1.32	....	....	....	....	1.18	1.28	1.20	....	1.17	1.38	1.38	1.13	....	1.19	....
34-34.9	....	1.32	....	....	....		....	1.37	....	....	....	....	1.22	1.32	1.25	....	1.20	....	....	1.17	....	1.23	....
35-35.9	....	1.35	....	....	....		....	1.42	....	....	....	....	1.25	....	1.29	....	....	....	....	1.20	....	1.27	....
36-36.9	....	1.39	....	....	....		....	1.46	....	....	....	....	1.29	....	1.33	....	....	....	....	1.24	....	1.31	....
37-37.9	....	1.43	....	....	....		....	1.51	....	....	....	....	1.32	....	1.37	....	....	....	....	1.28	....	1.35	....
38-38.9	....	....	....	....	....		....	1.56	....	....	....	....	1.36	....	1.42	....	....	....	....	1.31	....	1.39	....
39-39.9	....	....	....	....	....		....	1.61	....	....	....	....	1.40	....	....	....	....	....	....	1.35	....	1.43	....
40-40.9	....	....	....	....	....		....	1.66	....	....	....	....	1.43	....	....	....	....	....	....	1.39	....	....	....
41-41.9	....	....	....	....	....		....	....	....	....	....	....	....	....	....	....	....	....	....	1.43	....	....	....
42-42.9	....	....	....	....	....		....	....	....	....	....	....	....	....	....	....	....	....	....	1.46	....	....	....
43-43.9	....	....	....	....	....		....	....	....	....	....	....	....	....	....	....	....	....	....	1.50	....	....	....
44-44.9	....	....	....	....	....		....	....	....	....	....	....	....	....	....	....	....	....	....	1.54	....	....	....
45-45.9	....	....	....	....	....		....	....	....	....	....	....	....	....	....	....	....	....	....	1.57	....	....	....
46-46.9	....	....	....	....	....		....	....	....	....	....	....	....	....	....	....	....	....	....	1.61	....	....	....
47-47.9	....	....	....	....	....		....	....	....	....	....	....	....	....	....	....	....	....	....	1.65	....	....	....
48-48.9	....	....	....	....	....		....	....	....	....	....	....	....	....	....	....	....	....	....	1.68	....	....	....

F. O. B. Standard Pipe Line

*F. o. b. ship.

‡Also McKittrick, Kern River. Kern Front and Round Mountain $0.70 thru 19.9 gravity; no higher gravity quoted.

†Wilmington prices differ on gravities below 18.9. Prices are: 14-16.9, $0.75; 17-17.9, $0.77; and 18-18.9, $0.79; rest of schedule same as Signal Hill.

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FUEL OIL

(*Continued from page* 45)

market last week for heavy oil, covering requirements for August. No large orders were reported.

Quotations on domestic and industrial fuel oils were unchanged over the week.

* * *

TULSA, Aug. 7. — Apparently convinced that rail rates will not be reduced in time to affect fall buying, some mid-western distributors were reported buying small lots of Mid-Continent light fuels last week. Inquiry centered around the No. 2 grade, suppliers said. Quotations for all light fuels were reported unchanged.

An Oklahoma refiner reported occasional sales of 14-16 fuel oil at 70 cents. Demand was predominantly from industrial users, he said.

Truckers' Oil Tonnage Gains in June

WASHINGTON, Aug. 7.—Petroleum products moved by trucks in June totaled 11.1 per cent above tonnage moved in June a year ago, according to the American Trucking Association's monthly index of truck movement. At the same time, the report showed, June tonnage was 1.8 per cent under May.

For all commodities, the June movement represents a gain of 26.2 per cent over June a year ago, and a decrease of 1.8 per cent under May.

France Offers Free 'Gas' To Encourage Touring

WASHINGTON, Aug. 7.—In an effort to stimulate motor touring by visitors, which has been discouraged by high gasoline taxes, France is offering foreign motorists up to $8 worth of gasoline free. A motorist is allowed a discount of one-half a franc on every quart of gasoline purchased.

Because of low purchasing power and high gasoline taxes, midget cars predominate in the country and gasoline is sold by the liter, which is approximately equal to one quart. The tourist can buy up to 600 liters under the plan and receive a bonus of gasoline worth 300 francs, or about $8 in American money.

Houston Oil Expo Refunds Exhibitors

HOUSTON, Aug. 7.—The Oil-World Exposition, Inc., in line with its non-profit policy, has declared a refund of 10 per cent to all exhibitors who had space in the 1939 exposition held at Houston in April.

Date for the next oil show in Houston has been set for April 11 to 18, 1942. Definite action on the 1942 exposition was taken after the city offered to provide additional grounds, buildings and other facilities. Directors have decided to grant automatic option to exhibitors in the 1939 show for the same space in the 1942 show.

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Copy must reach us not later than Saturday preceding date of issue.

All advertisements carried on this page are payable in advance.

"STRICTLY PERSONAL"

H. H. McCowen has been transferred from the Manufacturing Department to the Industrial Relations Department of Standard of Ohio, where he will give most of his time to safety work in the Latonia and Solar refineries and the Cincinnati, Dayton, Portsmouth and Zanesville divisions.

* * *

Jesse Stickel, New York, of Crown Petroleum Corp., is back in his office following a session with the surgeon's knives, and says he's feeling much better.

* * *

Among visitors in New York from the southwest the past week were **John Manley,** Corpus Christi, Texas, of Amco Refining Co.; **Dan Hovey,** Houston, of Republic Oil Refining Co.; **Tom McArdle,** Corpus Christi, of Terminal Refining Co., and **G. L. Rowsey,** Taylor, Texas., of Taylor Refining Co.

* * *

Ken H. Dunbar of New York, of Hartol Products Corp., flew to Cleveland Aug. 5 to spend the day with his father, who exhibited some of his prize chickens at the World Poultry Congress.

* * *

A. E. Landsittel, of Wichita, Kans., sales manager of Globe Oil & Refining Co. and his family have returned from their vacation trip through Canada and the New England states.

* * *

H. L. Funk, White City, Kans., of Funk Oil Co. and a director of the Kansas Oil Men's Ass'n, has returned from a trip with his family through Colorado, Utah, Wyoming and Montana.

* * *

Fred L. Brewer of LaGrange, Ill., the Brewer Oil Co., spent last week in his summer home near Manistee, Mich.

* * *

Mason D. Harris will direct operations of Standard Oil Co. of Ohio's newly acquired pipeline, which extends from the Illinois field through Indiana and Ohio and a few miles into Pennsylvania. Mr. Harris is a new Sohioan, coming to the company from Tide Water Oil Co. where he had been in charge of construction of the Tidal's pipeline system in Oklahoma and later its gathering system in East Texas. He also was in charge of construction of the gathering system in the Conroe field of Texas and a trunk line from that area.

M. H. Champion, traffic manager for Anderson-Prichard Oil Corp., Oklahoma City, is president of the Petroleum Rail Shippers Ass'n., spearhead of the rail shipping refiners fight for lower rates competitive with other forms of transportation.

Mr. Champion has served the transportation branch of the industry for the past 32 years. Even the World War with its regimentation failed to pull him out of his chosen field of transportation. During his enlistment, he

M. H. Champion

acted as brakeman and switchman overseas, finally attaining the title of "night yardman" at St. Florentine, France, just outside of Paris.

Rail shippers' fight for reduced rates from the southwest into the so-called Indiana Standard territory culminated in hearings this month on a proposal drawn up by Mr. Champion. He also worked on the 175 page volume of rail statistics presented at the hearing. That volume, incidentally, is admitted to be one of the most complete collections of rail rate information compiled.

* * *

Ernest P. Maurin of Kansas City, head of the Mid-West Oil Co., has returned from a six weeks' motor trip to the Black Hills, Yellowstone Park, San Francisco and Los Angeles, Carlsbad Caverns and Mexico. A movie camera enthusiast, Mr. Martin took over 1000 feet of color film of high points of his trip. He was accompanied by **Mrs. Maurin,** his daughter **Dorothy** and son **Ernest Jr.,** who is associated with him in business.

Neil Buckley of Tulsa, who has been associated with Cities Service Oil Co. of Pennsylvania the past 18 years, has resigned to become vice president of Taylor Refining Co., which has refineries in East Texas and on the Texas Gulf Coast.

Early in 1935, when the Independent Refiners Marketing Corp. was organized by East Texas refiners, it "borrowed" Mr. Buckley from Cities Service to direct the organization's activities. He will take over his new duties some time in August.

* * *

B. F. Reinfrank has been named manager of the consolidated northern and eastern division offices of Barnsdall Refining Corp., at Minneapolis, according to **George F. Racette,** vice president in charge of Barnsdall's marketing activities.

* * *

D. E. Hoffman, of New York, Tide Water Associated Oil Co., is on a three weeks vacation in New England. He plans to spend part of the time with his family at Sanbornville, N. H.

* * *

L. R. Kamperman, of Alma, Mich., Leonard Refining Co., returned to his office this week after a vacation. Accompanied by Mrs. Kamperman, he spent two weeks in northern Michigan golfing and fishing.

* * *

E. D. Smith, of Dallas, formerly general superintendent of the production division of Magnolia Petroleum Co., has been made assistant manager of the production division, succeeding **C. L. Gladden,** resigned. **E. N. Wilson** is filling Smith's former position and **A. H. Proctor** moved up to division superintendent of production to replace Wilson.

George Miller has been made acting marketing manager during the absence of **Fred M. Lege, Jr.**

Will Fusion-Weld Ten Tank Cars

WASHINGTON, Aug. 7.—Interstate Commerce Commission has granted American Car & Foundry Co. authority to construct 10 tank cars by the fusion-welding method for experimental use in transportation of petroleum products. In all other respects than the fusion-welding construction (instead of riveting), the cars are to conform to ICC's shipping specification 103 for tank cars. They are to be of 8000 gallons capacity each.

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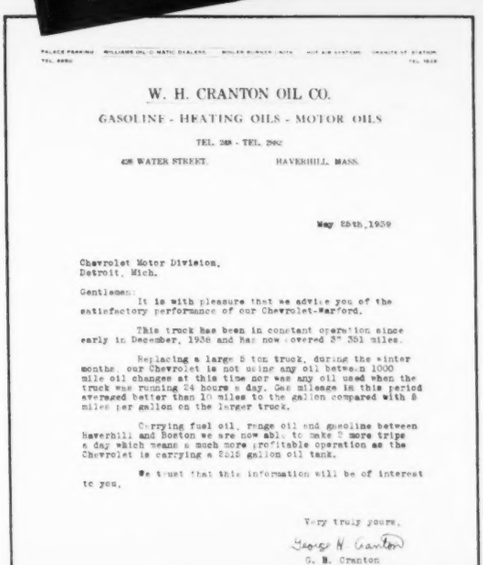

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This truck has been in constant operation since early in December, 1938 and has now covered 38 361 miles.

Replacing a large 5 ton truck, during the winter months, our Chevrolet is not using any oil between 1000 mile oil changes at this time nor was any oil used when the truck was running 24 hours a day. Gas mileage in this period averaged better than 10 miles to the gallon compared with 8 miles per gallon on the larger truck.

Carrying fuel oil, range oil and gasoline between Haverhill and Boston we are now able to make 2 more trips a day which means a much more profitable operation as the Chevrolet is carrying a 525 gallon oil tank.

We trust that this information will be of interest to you.

Very truly yours,

George H. Cranton

G. H. Cranton
Cranton Oil Co.

The performance of a Chevrolet truck in the service of the W. H. Cranton Oil Co., as outlined in the letter here published, is typical of the performance of Chevrolet trucks everywhere . . . just as the satisfaction expressed by Mr. Cranton is the sort that is felt by thousands of other Chevrolet owners everywhere. In short, it is performance such as this, and satisfaction such as this, that have made Chevrolet the largest-selling of all motor trucks.

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Robert F. Hand

Robert F. Hand's 37 years of shipping petroleum products to the four corners of the globe has been climaxed by his appointment as general manager of the marine department of Standard Oil Co. (New Jersey).

As "skipper" of the New Jersey Standard's fleet, he commands 206 vessels totaling 2,155,000 tons, which is 13 per cent of the world's tanker tonnage and greater than the naval tonnage of any nation.

Mr. Hand joined Standard Oil Co. of New York in 1902 and was the first shipping man sent to the Far East. Returning in 1912, he became assistant manager of New Jersey Standard's foreign shipping department.

Mr. Hand's new appointment necessitated merely a switch of offices, as he had carried on the managerial duties for some time during the illness of the late R. L. Hague. Mr. Hand also was elected a vice president and director of the Standard Oil Co. of New Jersey, domestic operating subsidiary of the parent company.